AN INVESTIGATION OF THE ROLE OF INFLUENCE BEHAVIORS IN INFORMATION SYSTEM IMPLEMENTATION: A CASE STUDY OF THE AIR FORCE INSTITUTE OF TECHNOLOGY SCHOOL OF ENGINEERING AND MANAGEMENT STUDENT ACADEMIC SUPPORT SYSTEM

THESIS

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AFIT/GIR/ENV/04M-13

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Abstract

Organizations implement information systems (IS) for various reasons such as streamlining daily functions and keeping pace with changes in technology. Influence behaviors demonstrated by key leaders in reference to the implementation of such information systems play a key role in their acceptance and success. This research looks at a specific case of IS implementation and the role influence behaviors played in the successfulness of the system. This research is a case study of the Air Force Institute of Technology's (AFIT) implementation of an academic support system called my.afit.edu. Interviews and documentation gathered from key parties involved in the implementation provided a basis for understanding the implementation effort and the effect influence behaviors had on the successfulness. This research showed how the use of positive influence behaviors by key leaders results in a successful implementation effort. In addition to the use of positive influence behaviors by key leaders, the success of the implementation effort is tied to management and implementers and their ability to address user concerns early in the implementation effort.

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I. Introduction

Overview

Organizations implement information systems (IS) for various reasons such as streamlining daily functions and keeping pace with changes in technology. Employee acceptance of these new IS depends on how the system is introduced and incorporated into organizational activities. Influence behaviors demonstrated by key leaders in reference to the implementation of such IS play a key role their acceptance and success.

In January 2002, Air Force Institute of Technology Communications and Information Directorate (AFIT SC) developed a new academic support system called my.afit.edu. AFIT SC is a department along with the Directorate of Admissions/Registrar (AFIT RR) that supports the five main schools of the Air Force Institute of Technology (AFIT). These five schools include: 1) Graduate School of Engineering and Management (AFIT EN), 2) School of Systems and Logistics (AFIT LS), 3) Civilian Institute Programs (AFIT CI), 4) Civil Engineer and Services School (AFIT CE), and 5) the Center for Systems Engineering (AFIT CSE). AFIT EN and RRD

(a section within AFIT RR) use the my.afit.edu information system to manage a spectrum of student related information. More specifically, my.afit.edu is a web-enabled portal that allows seamless access to a variety of disparate databases that capture student information such as class registration, class schedules, and course grades. Interestingly, the conceptualization and eventual implementation of this new information system was shepherded by a small group of individuals from within AFIT whose influences were key in the making the innovative effort a reality.

Purpose

The purpose of this study is to investigate influence behaviors demonstrated by key leaders in the process of the AFIT student academic support system implementation and to assess key leaders impact on the successfulness of the AFIT student academic support system implementation.

Research Questions

This study will answer the following research questions:

(1) What is the history of the academic support system implementation effort?

(2) Who were the key parties (i.e. leaders, end-users, implementers) involved in the implementation?

(3) What were the influence behaviors demonstrated by key leaders during the implementation process of the academic support system as viewed by the key parties?

(4) How did these influence behaviors impact the successfulness of the implementation?

(5) What do key parties view as current/future critical issues with the academic support system?

Significance

This study examines influence behaviors in the context of a case study that identifies and the impact of influence behaviors on the successfulness of the implementation. This case study will also identify current and critical issues with the academic support system for AFIT SC as identified by users in order that the system may be improved.

Thesis Overview

This thesis is divided into five chapters. Chapter I provides a background of the study, the research questions, and a brief description of the study approach. Chapter II provides a literature review that summarizes what scholars and researchers have published on the issues investigated in this research. This literature review will also address the implementation of information systems and behaviors exhibited by leaders which influence outcomes. Chapter III addresses the research methodology and data analysis approach used in this study and identifies strengths and weaknesses of the method used. Chapter IV presents the results gathered in the interviews and the findings and analysis uncovered in the interviews. Finally, Chapter V provides a discussion of the findings, limitations of the research, and recommendations for further study.

II. Literature Review

Overview

There are three overall goals for this chapter. The first goal is to examine the research on information systems (IS) implementation efforts and to present implementation models and theories of interest to this research effort. The second goal is to present theories of interest to this research located in influence behavior literature. The final goal of this research is to present the history of my.afit.edu relevant to this research.

Information Systems Implementation

IS implementation occurs when ways of completing information processing or decision-making have changed and is in need of being more efficient and effective (Lai & Mahapatra, 1997; Schultz et al., 1984). The two ways of viewing IS implementation are organizationally (macro) and individually (micro) (DeSanctis, 1984). Macro and micro views are on a continuum that range from the entire organization's view/perspective to individual user's view/perspective (DeSanctis, 1984). The macro view considers the implementation process in terms of how it fits in the entire organization and the micro view looks at how the implementation fits into the user's work role and needs (DeSanctis, 1984).

On a macro level of viewing IS implementation, organizations introduce new IS for a variety of reasons to include keeping pace with the changes in industry. Micro level IS implementation include changing data input techniques in a manner to increase the amount of data processed. The initial success of an IS is largely dependent on its proper implementation as viewed from both an organizational and individual level. The

following sections will present literature on the stages of IS implementation, success criteria and issues facing IS implementation, and the role implementers play in the success of an IS.

Implementation Stages

Studying the process of IS implementation provides the groundwork of understanding the implementation effort. The IS implementation process can be described as occurring in stages. Researchers have developed different models of the IS implementation stages. Models range from three stages of implementation to as many as six stages (Apple & Zmud, 1984; Cooper & Zmud, 1990; Pierce & Delbecq, 1977; Zmud, 1982; Zmud & Cox, 1979). Actions occurring during the implementation define the different stages. Implementation stage models started with Zmud and Cox's (1979) six-stage model. The six stages of Zmud and Cox's (1979) model are: 1) initiation, 2) strategic design, 3) technical design, 4) development, 5) conversion, and 6) evaluation. Subsequent implementation models were based on the same model. This research uses, instead, a three-phase implementation model (Zmud, 1982) that is a condensed version of Zmud and Cox's (1979) six-stage model. Current implementation models consist of pre-implementation and post-implementation evaluation actions (Cooper & Zmud, 1990; Kwon & Zmud, 1987; Lai & Mahapatra, 1997). The current research has not reached the post-implementation evaluation stage so the models taking into account post-implementation actions were not considered. The actions occurring in each stage of the six-stage implementation model (Cooper & Zmud, 1990; Zmud & Cox, 1979) are more discrete than those occurring in the three-phase model. The three-phase model

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simplifies the implementation process to three stages, which allows flexibility in defining each stage.

Zmud's (1982) three-phase model consists of: 1) initiation, 2) adoption, and 3) implementation (Apple & Zmud, 1984; Pierce & Delbecq, 1977; Zmud, 1982). The model starts with the initiation of an innovative idea or proposal (Zmud, 1982). Innovative ideas are a result of recognizing a new way to meet an established need (Pierce & Delbecq, 1977; Zmud, 1982). The adoption phase entails conflict and the need to bargain across the organization (Zmud, 1982). Organization politics play a significant role in the adoption phase. The last phase of implementation follows the decision of an organization to adopt the innovation and involves organization acceptance (Zmud, 1982). Figure 1 shows Zmud's (1982) three-phase implementation model.

Initiation → Adoption → Implementation
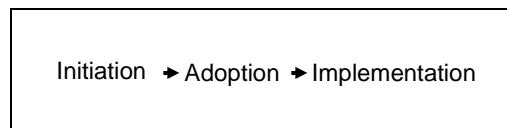
Figure 1. Three-Phase Implementation Model (Zmud, 1982)

Issues Encountered in IS Implementation

The implementation stages involve the interaction of three groups: 1) implementers, 2) users, and 3) management. Each group has responsibilities in each stage but the degree of participation varies for each group in each stage. There are many issues encountered in IS implementation that are dependent on the degree of participation of the three groups. The more common issues include: 1) management support, 2) amount of training in the new IS offered to users, 3) user commitment. The most consistent challenges encountered in implementation include gaining management

support and the conduct of the implementation process itself (Schultz et al., 1984). User

training is also an important factor in IS implementation (Fuerst & Cheney, 1982). When

high system usage is expected, implementers must evaluate the amount of user training

needed (Fuerst & Cheney, 1982).

Implementers can increase the level of commitment from users by doing what is

necessary throughout the stages of implementation to ensure that user concerns are

addressed (Ginzberg, 1981a). The expected result of a new IS will affect a user's

resistance to change. The implementation of a new IS brings about adjustments to the

way tasks were previously accomplished (Ginzberg, 1981a; Ginzberg, 1981b).

Individuals involved must be willing to make the changes in behavior, procedures, etc., in

order for the system to work (Ginzberg, 1981a; Ginzberg, 1981b).

IS Implementation Success Criteria

Many factors influence the success of an IS implementation effort. These factors

include user attitudes and perceptions (Lucas, 1978), user involvement during systems

development (Ginzberg, 1981b; Sanders & Courtney, 1985), top management support of

the system (Ginzberg, 1981b; Sanders & Courtney, 1985), cognitive styles and individual

differences (DeSanctis, 1984; Sanders & Courtney, 1985), user expectations and attitudes

(Ginzberg, 1981b; Sanders & Courtney, 1985), and technical system quality (DeSanctis,

1984; Sanders & Courtney, 1985). The attitudes of users, managers, and implementers

during the implementation stages provide the most impact on the successfulness of the

effort (DeSanctis, 1984; Ginzberg, 1981b; Joshi, 1991; Lucas, 1978; Markus, 1983;

Sanders & Courtney, 1985). The major theme of the research involves the perceptions of

users, managers, and implementers about various aspects of a specific IS implementation

with a minor focus on system quality issues. This research will focus on user perceptions during the implementation effort (DeSanctis, 1984; Ginzberg, 1981b; Lucas, 1978; Sanders & Courtney, 1985) and the quality of the IS being implemented as viewed by the user (Joshi, 1991).

The first criterion in implementation success relevant to this research is user perceptions (Lucas, 1978). The cognitive styles and individual differences contribute to the perceptions of users (DeSanctis, 1984; Sanders & Courtney, 1985). User perceptions affect the level of involvement for the user. User involvement during systems development also influence the success of IS (Ginzberg, 1981b; Sanders & Courtney, 1985).

The second implementation success criterion relevant to this research is the quality of a system or model. Users must consider the system to be of sufficient quality to meet their needs in order for the system to be viewed favorably by users (DeSanctis, 1984; Ginzberg, 1981b; Joshi, 1991; Lucas, 1978).

Role of IS Implementers

Implementers play a major role in the implementation process and in the successfulness of the new IS. Implementers can adopt different theories to deal with possible resistance to the IS implementation. Markus (1983) presented four theories implementers can adopt during IS implementation: 1) people-determined theory, 2) system-determined theory, 3) people-plus-system-determined theory, and 4) interaction theory. In people-determined theory, implementers support getting users involved in the design process (Markus, 1983). Implementers who adopt a people-determined theory will focus on getting users on board who are likely to support the

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system and re-enforce that support through training and education (Markus, 1983). System-determined theory parallels people-determined theory except people-determined theory focuses on garnering user support for the system and system-determined theory focuses on improving the system for the users (Markus, 1983). User involvement in system-determined theory improves the overall quality and functionality of the system by taking into account user requests (Markus, 1983). People-plus-system theory combines both people-determined theory and system-determined theory. People-plus-system-determined theory places emphasis on user involvement during the design stage (Markus, 1983). Interaction theory requires implementers to complete a thorough diagnosis of the organizational setting in which the system will be used (Markus, 1983).

During implementation, the implementers' conduct toward users will limit both what information implementers provide to users, as well as influence how implementers interpret users' comments or questions (Griffith & Northcraft, 1996). The amount and type of information presented by the implementers to the users can cause problems during the implementation. Problems arise when implementers present only one view of the system to users because of their familiarity with the system (Griffith & Northcraft, 1996). Ignoring user concerns regarding system operations and only presenting the positive aspects of the system fails to meet the user's needs (Griffith & Northcraft, 1996). According to Griffith and Northcraft (1996), users have a high need to reduce uncertainty and gain control over the technology during implementation.

The role implementers take on during the stages of the implementation process shapes the success of the IS. The perceptions of implementers, users, and management

during implementation stages play a significant role in the successfulness of the IS implementation.

Influence Behaviors

Influence is defined as the power that someone has to sway the actions or thinking of another (http://encarta.msn.com/dictionary_/influence.html). The influences among and between implementers, users, and management during the implementation process is an important determinant in success (Yukl & Falbe, 1990). Implementers, users, and management can play the role of one of three entities: 1) subordinate, 2) peer, or 3) superior.

The following sections will discuss influence behavior research, influence behaviors and their relation to subordinate, peers, and managers, the use of influence behaviors, and conclude with influence behavior literature that focuses on IS implementation.

Influence Behaviors

Although there are many studies concerning influence behaviors, there is a consensus on the definitions for each behavior. The influence behaviors prevalent in the literature are: 1) pressure, 2) upward appeals, 3) exchange, 4) coalition, 5) ingratiation, 6) rational persuasion, 7) inspirational appeals, 8) consultation, 9) personal appeals, and 10) legitimating (Falbe & Yukl, 1992; Yukl & Falbe, 1990; Yukl & Tracey, 1992)**.** Table 1 presents the definitions of these ten influence behaviors.

Table 1. Influence Behavior Definitions (Falbe & Yukl, 1992; Yukl & Falbe, 1990; Yukl & Tracey, 1992)

Influence Behavior	Definition
Pressure	The person uses demands, threats, or persistent reminders to influence you to do what he or she wants
Upward Appeals	The person seeks to persuade you that the request is approved by higher management or appeals to higher management for assistance in gaining your compliance with the request
Exchange	The person offers an exchange of favors, indicates willingness to reciprocate at a later time, or promises you a share of the benefits if you help accomplish a task
Coalition	The person seeks the aid of others to persuade you to do something or uses the support of others as a reason for you to agree also
Ingratiation	The person seeks to get you in a good mood or to think favorably of him or her before asking you to do something
Rational Persuasion	The person uses logical arguments and factual evidence to persuade you that a proposal of request is viable and likely to result in the attainment of task objectives
Inspirational Appeals	The person makes a request or proposal that arouses enthusiasm by appealing to your values, ideals, and aspirations or by increasing your confidence that you can do it
Consultation	The person seeks your participation in planning a strategy, activity, or change for which your support and assistance are desired, or the person is willing to modify a proposal to deal with your concerns and suggestions
Personal Appeals	The person appeals to your feelings of loyalty and friendship toward him or her before asking you to do something
Legitimating	The person seeks to establish the legitimacy of a request by claiming the authority or right to make it or by verifying that it is consistent with organizational, policies, rules, practices, or traditions

Falbe and Yukl (1992) grouped the influence behaviors into three categories:

1) hard, 2) soft, and 3) rational persuasion. Hard behaviors involve use of authority and

position power and are used in an impersonal and manipulative way (Falbe & Yukl,

1992). Hard behaviors include pressure, legitimating, upward appeals, and many forms

of coalition (Falbe & Yukl, 1992). Soft behaviors involve the use of personal power and

power sharing (Falbe & Yukl, 1992). Ingratiation, consultation, inspirational appeals,

and personal appeals are soft behaviors (Falbe & Yukl, 1992). Rational persuasion, as stated in Table 1, involves an individual using logical arguments and factual evidence to persuade another individual that a proposal or request is viable and likely to result in the attainment of task objectives (Falbe & Yukl, 1992; Yukl & Falbe, 1990; Yukl & Tracey, 1992). Exchange can be a rational behavior but when used in an impersonal, manipulative way it is a hard behavior (Falbe & Yukl, 1992).

Influence Attempts in Subordinate, Peer, and Superior Relationships

Different influence behaviors have been identified as significant predictors of various facets of individual effectiveness (Church & Waclawski, 1999). An important determinant of managerial effectiveness is the ability of an individual to influence subordinates, peers, and/or superiors (Church & Waclawski, 1999; Yukl & Falbe, 1990). The three directions in which individuals can exert an influence on another are: 1) upward, 2) downward, and 3) lateral. Upward attempts occur when an individual uses an influence behavior on a superior (Ringer & Boss, 2000). Downward attempts occur when an individual exerts an influence behavior on a subordinate (Church & Waclawski, 1999). Lateral attempts occur when an individual exerts an influence on peers. To be an effective influencer in a lateral relationship requires significant attention to how one comes across to one's peers (Church & Waclawski, 1999).

Influence behaviors tend to vary in accordance with the direction (Yukl & Fable, 1990; Yukl, Falbe, & Youn, 1993). Research shows that in certain instances particular behaviors are used (Yukl et al., 1993). An individual's authority and position power and the expectations based on the position held by the individual play a role in the direction chosen to exert an influence (Yukl et al., 1993).

The success of an influence attempt depends on the nature of the request as well as on the immediate outcome (Falbe & Yukl, 1992). Assigning work to a subordinate is easier than trying to convince a peer in another function to do something or to convince a supervisor to change their position (Church & Waclawski, 1999). Influence on a systematic level is at least one of the primary means by which individuals and work units in organizations communicate and exchange inputs and outputs with one another (Church & Waclawski, 1999). Individuals high in the organizational structure may provide individuals with a strong sense of control. Superiors are more likely to attempt to influence a subordinate and use a variety of behaviors (Ringer & Boss, 2000).

Trust also plays a role in whether or not an individual will use an influence behavior (Ringer & Boss, 2000). High levels of trust encourage the use of an influence behavior by a subordinate to a superior because the superior is open to influence from the subordinate (Ringer & Boss, 2000). In addition to trust and power, locus of control plays a role in upward influence behaviors (Ringer & Boss, 2000). The amount of control a subordinate perceives to have over a situation will dictate whether they will attempt to use influence behaviors (Ringer & Boss, 2000).

Use of Influence Behaviors

There are many studies on the connection between the direction of the influence attempt and the influence behavior used. Some behaviors are easier to use in a particular direction because of power granted by authority or their use is consistent with role expectations (Yukl et al., 1993).

Researchers have studied the directional differences in the use of influence behaviors, identified behaviors frequently used alone or together, and identified typical

patterns in the sequencing of behaviors (Falbe & Yukl, 1992; Yukl & Falbe, 1990; Yukl et al., 1993). Trying to change the target's attitude about the desirability of the request describe influence attempts (Yukl & Tracey, 1992). Exchange behaviors are used less often in downward or lateral attempts (Yukl & Falbe, 1990). In lateral appeals, ingratiation, personal appeals, exchange, and coalition are used more often (Yukl et al., 1993). In upward appeals, rational persuasion and coalition are used often (Yukl et al., 1993). Inspirational appeals and consultation are used frequently in downward attempts (Yukl & Falbe, 1990).

IS Implementation-related Influence Behavior Research

Enns, Huff, and Higgins (2003) studied influences exerted by CIOs on their peers in convincing them to commit to a IS initiative. Since the focus of this research is the implementation of an IS, the CIO-related research is relevant to this research. The difference between the early influence behavior studies and the influence behavior studies completed by Enns et al. (2003) was the absence of upward appeals, inspirational appeals, and legitimating as influence behaviors. Interview subjects did not mention legitimating and inspirational appeals during initial interviews of the study completed by Enns et al. (2003). Upward appeals do not apply when CIOs are attempting to influence their peers because CIOs are not attempting to appeal to superiors nor attempt to persuade an individual that upper management approves the project. Figure 2 diagrams the CIO lateral influence research model presented by Enns et al. model with seven influence behaviors determining the outcome. "Rational persuasion and personal appeals had positive impacts on the influence outcome while exchange and pressure had negative impacts" (Enns et al., 2003). The Enns et al. research advocates caution when employing

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the remaining influence behaviors, consultation, ingratiation, and coalition. Knowledgeable CIOs who approach their peers with useful information are more likely to have a positive influence on their peers (Enns et al., 2003; Enns, Huff, & Golden, 2003).

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Rational Persuasion ─┐
Consultation ─┐      │
Personal Appeal ─┐   │   ┌─────────────┐
Ingratiation ────┼──→│ Influence Outcome │
Exchange ─┘      │   │(commitment, compliance,│
Coalition ─┘     │   │    resistance)    │
Pressure ────────┘   └─────────────┘
```
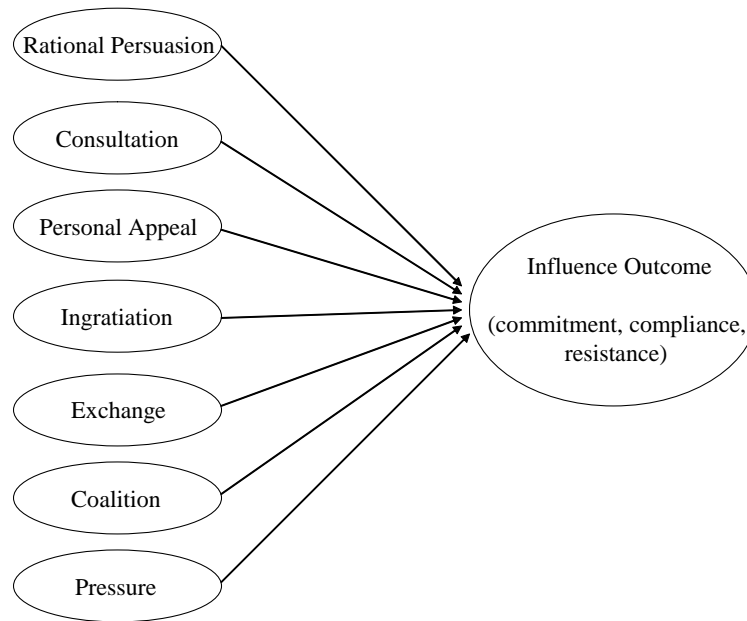
Figure 2. CIO Lateral Influence Research Model (Enns, Huff, & Higgins, 2003)

The resulting outcome of an influence attempt shapes an individual's IS acceptance (Enns et al., 2003). Actions of individuals participating in the IS implementation process determine the successfulness of IS implementation.

my.afit.edu History

The IS implementation process shaped the development of my.afit.edu while influence behaviors were used by individuals taking part in the implementation to keep the project on track. Exploratory interviews produced a history of the migration to my.afit.edu.

As mentioned previously, the Air Force Institute of Technology (AFIT) is comprised of five schools, Graduate School of Engineering and Management (AFIT EN), School of Systems and Logistics (AFIT LS), Civilian Institute Programs (AFIT CI), Civil Engineer and Services School (AFIT CE), and the Center for Systems Engineering (AFIT CSE). Various departments/staff functions support the five schools to include the Communications and Information Directorate (AFIT SC), and the Directorate of Admissions/Registrar (AFIT RR). Schools and departments relevant to this research are AFIT SC, RRD (a department within RR), and EN.

AFIT SC supports four internal databases: ORACLE, Dbase, Paradox, and Microsoft Office Data Files. This study focuses on the ORACLE database which was the foundation of the AFIT Student Information System (AFITSIS). Over time AFITSIS evolved into a more robust system. AFIT personnel use applications to access each database. Various applications access information (data files) stored in the ORACLE database through the ORACLE database management system (DBMS). The student tracking and registration system (STARS) was the application used by EN and RRD. Figure 3 highlights the application used by both EN and RRD in a representation of the ORACLE database as reported during a 1996 investigation of AFIT's IS and information management practices (Heminger & Miles, 1996).

Users

RR   EN

STARS

Applications

ORACLE 6

DBMS

AFITSIS

Data Files
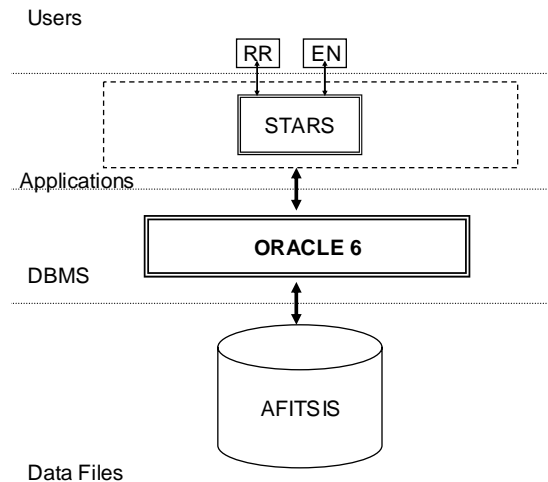
Figure 3. AFIT EN and RRD Student Information System (Heminger & Miles, 1996)

AFITSIS started on VAX/VMS, a multi-user, multi-tasking operating system. The VAX

system was prone to user mistakes because of the non-user friendly interface. From 1997

to 1999, the applications services office (SCA) within AFIT SC migrated to a UNIX

ORACLE database server, with client-server architecture. Y2K requirements spurred the

VAX-UNIX migration. The added functionality and applicable applications

characterized the growth of AFITSIS into AFIT Management Information System

(AFITMIS).

Lieutenant Colonel (Lt Col) Robert Mills (retired) joined AFIT as the Director of

Communications and Information (SC of AFIT) in September 2000. As the SC of AFIT,

Lt Col Mills had to provide IT leadership and lifecycle support of responsive, reliable,

up-to-date communications, information and technology for AFIT students, faculty and

staff. Lt Col Mills had four departments under his command that provided IT support to

AFIT organizations: 1) IT plans (SCX), 2) network operations and maintenance (SCB),

3) audiovisual support (SCV), and 4) application services (SCA).

Lt Col Mills began monthly customer meetings in late 2000 to address AFITMIS functionality concerns from the users. The meetings gave customers a chance to discuss any issues they were having with AFITMIS. Through the regular meetings, it became clear that SC needed to address many customer issues to include general dissatisfaction with the AFITMIS functionality. During this time, SCA had a reputation of not meeting customer needs. Some requests from customers were not completed in a timely fashion which led to customers creating their own systems. The regular meetings between SC and customers evolved into configuration control boards (CCBs) in January 2001. The CCBs brought together customers and programmers in a structured meeting to discuss AFITMIS. During the CCBs, customers brought up problem areas and AFITMIS expansion requests to the board. The chair of the CCB would assign a point of contact and suspense date for each item. The CCBs discussed updates on outstanding issues. In addition to placing more accountability on SCA, the CCBs brought system awareness to the customers. The users were able to realize there were other AFITMIS customers, in addition to themselves, that also had needs to be addressed.

As SC started to work on AFITMIS, new guidance from senior Air Force personnel changed the course for AFITMIS. The Secretary of the Air Force (SECAF)/ Chief of Staff of the Air Force (CSAF) released a memorandum in January 2001 introducing new Air Force IT initiatives. SECAF/CSAF (2001) introduced three concepts: 1) the migration of all unclassified combat/mission support and service applications to the Air Force portal, 2) network and server consolidation starting at the Air Force base level and expanding to Air Force Major Commands, and 3) an integrated review of IT budget submissions starting in fiscal year 2003. The first concept

introduced in the memorandum played a significant role in SC making AFITMIS web-enabled.

Prior to the release of the memorandum, SC had considered moving AFITMIS to another platform for easier development and overall supportability of the system. In compliance with the CSAF memorandum, converting to portal technology offered many benefits to both programmers and users. Portal technology would eliminate the need for SCA to install software on every user system because a standard web-browser would be the only system requirement. Users would benefit because of the increased accessibility portal technology could add to the system. With web-based interfaces, users could have the opportunity to remotely access the system from anywhere with a web-browser.

With the new direction from Air Force headquarters and the desire to reach a workable solution with STARS (an application in AFITMIS used by EN and RRD), Lt Col Mills convinced key individuals in EN and RRD to form and integrated project team (IPT). The IPT allowed EN, RRD, and SC to sit down and map out their existing and desired business practices, to include desired automation support with the help of a facilitator. Lt Col Mills started with STARS because the issues in STARS were the most critical, and it is the largest component of AFITMIS. From March 2001 through July 2001, SC, EN, and RRD held monthly IPT meetings. The Assistant Dean for Academic Affairs, Dr. Paul Wolf, represented EN during the IPT meetings. EN wanted a system to meet their requirements but that was also user friendly. STARS currently satisfied the EN's system requirements of making available student information to users. The drawback to STARS, according to EN users, however, was the lack of user friendliness where navigation through the system proved temperamental to users. The Registrar for

the School of Engineering and Management, Mr. Randell Baker, represented his office RRD during the IPT meetings. RRD wanted a system that would meet the student needs and allow RRD personnel to be able to complete the same tasks in the new system that they were able to complete in STARS. Basic requirements for RRD were the ability to review student records electronically, produce transcripts, view course offerings, and produce course schedules.

It became apparent through the IPT meetings that the only way for SC to field a tool that would meet requirements of SC, RRD, and EN was to start over from scratch. Starting from scratch would require building something new or buying a commercial-off-the-shelf (COTS) product. Dr. Wolf was in favor or purchasing a COTS system because of the guaranteed customer support for the life of the system. RRD did not have a preference between a system created by SCA or COTS. Mr. Baker's only requirement was that a system was decided on quickly.

With the choice of buying a system or creating one, the IPT started holding weekly meetings in August 2001. In order to assess the viability of any system, the IPT first had to define the process of student entry to student graduation from EN. This process started with a student's selection to EN and included all actions required until his/her graduation. The facilitator played a crucial role during these weekly meetings in keeping everyone on track. The IPT members defined the actions occurring in each academic quarter in the process. In addition to defining the process, RRD and EN identified additional IT capabilities to aid them in student entry to graduation process.

SCA researched COTS products to find out their capabilities following the identification of the process. Research showed that the current system, STARS, met most

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of the user's requirements. Since STARS was developed in-house, SC had more control in terms of adding new features. COTS products would cost upwards of a million dollars and would require system modifications to meet EN's unique requirements. The goal of graduating a full-time EN student in eighteen months is the main difference between EN and other Graduate Schools. In order for AFIT EN to graduate a student in eighteen months, a student must be able to take certain classes at a certain time. Most other graduate schools do not have a student driven schedule. It was determined that a system built in-house was needed to support this requirement. SC presented its recommendation to build the system in-house to the IPT. Figure 4 diagrams the student entry to student graduation process developed by SC to replace STARS.
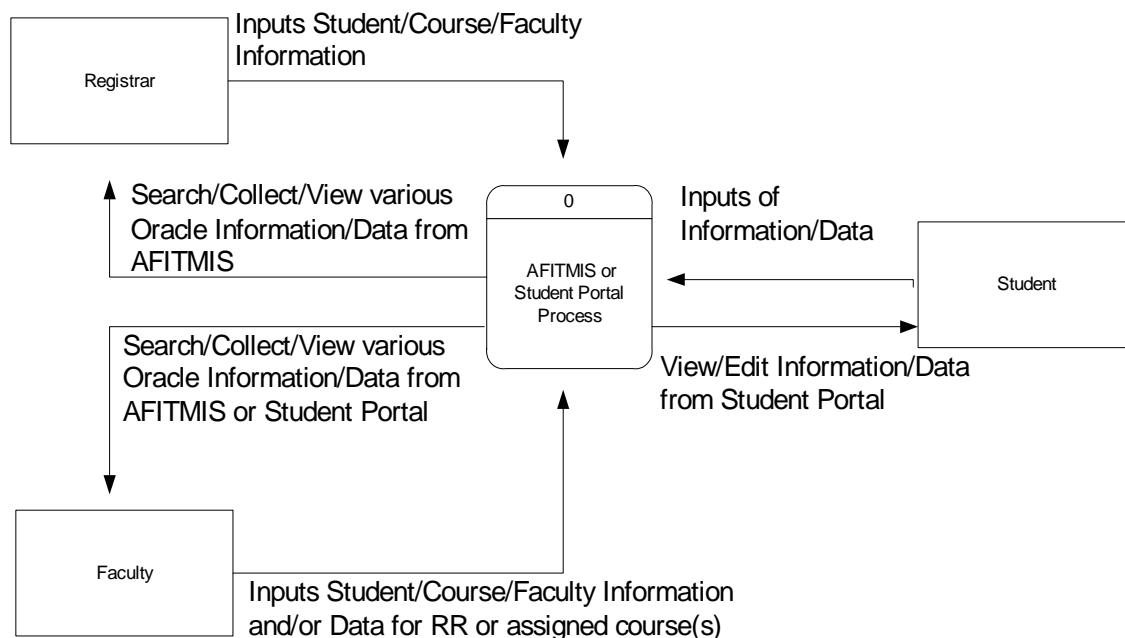
Figure 4. Diagram of the Student Entry to Student Graduation Process Developed by AFIT SC

Each party agreed to give SCA a month to demonstrate the functionality of the new system starting with publishing an on-line class schedule. SCA, with the help of

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SCBS, developed an on-line schedule by February 2002. After favorable reactions from EN and RRD, SCA pressed ahead with mapping out which functions should be converted and/or built first. EN's priority was completing the student portal by the start of the Fall 2002 academic quarter. Students did not have access to the database application used primarily by EN and RRD, but the new system would require student access to complete specific tasks within the system. Using the new system, students would be able to complete tasks they previously completed by hand to include registering for courses and checking grades on-line. Along with the student portal, a faculty portal was required to review and approve some of the functions completed in the student portal, such as review and approval of student entered education plans.

SCA, along with RRD and EN, had a goal of having the portal operational before the start of the Fall 2002 academic quarter. Meetings were held with RRD and EN staff, specifically education technicians (Ed Techs) to hash out requirements for migrating the remaining STARS functions into the new system. By the start of the Fall 2002 academic quarter, SCA completed the new system. Master's degree students entering EN students during the Fall 2002 academic quarter started using the new system.

Currently, my.afit.edu serves as the gateway for all users in EN and RRD into the AFITMIS database. Users log into the portal with their AFIT network account. The system assigns system accessibility roles based on the user's profile. The role assigned by the system determines a user's application screen. The header is common to everyone who logs in. The application screen resembles a collapsing table. There are three columns with assorted views into the database. As an example, Column A contains student, faculty, and Ed Tech views into the database. Depending on the assigned role,

the users view into the database is decided and the user views that application screen. A user cannot view applications that are not granted by their role. Figure 5 shows the application screen within the AFIT portal as seen by SCA, the only group with full system access.
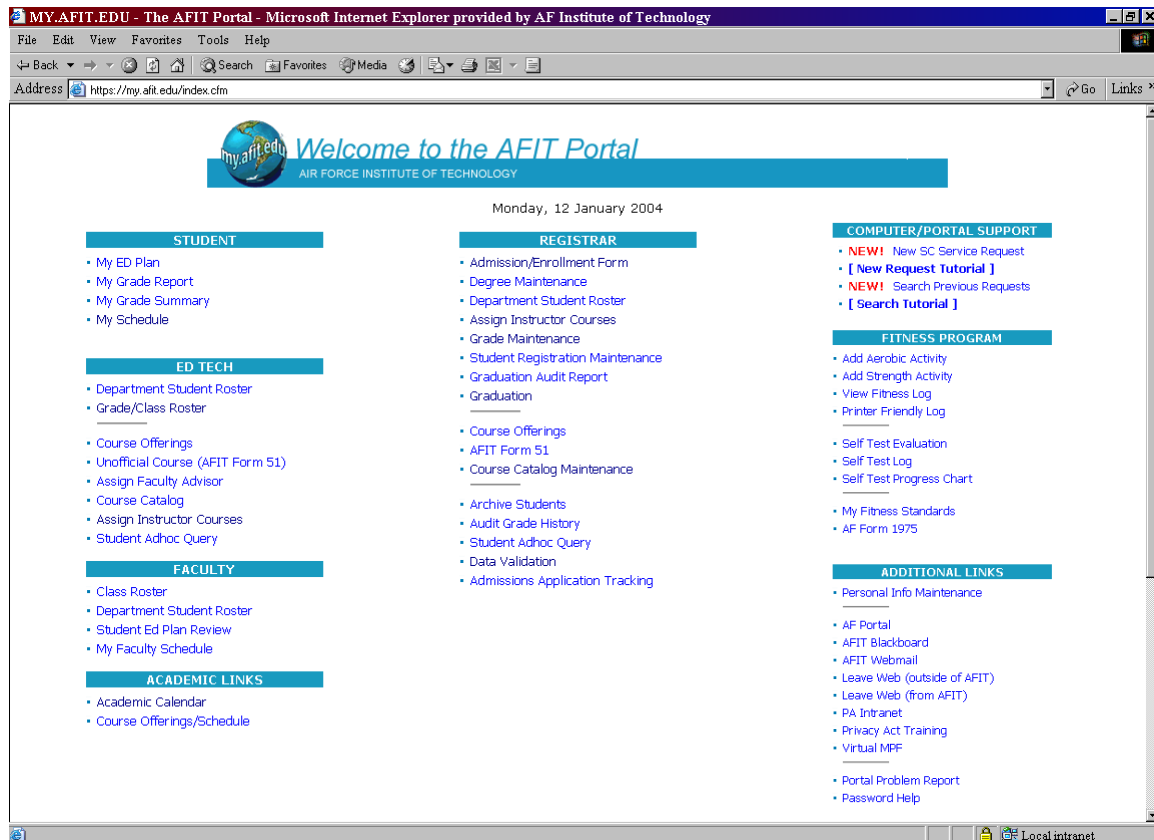
Figure 5. AFIT SCA my.afit.edu Screen Shot

Chapter Overview

This chapter reviewed literature relevant to IS implementation. The three-phase implementation model (Zmud, 1982) was presented along with issues encountered in IS implementation and IS implementation success criteria. Influence behaviors literature and how it relates to IS implementation was presented. In addition, this chapter provided

the history of AFIT's implementation of a new IS, my.afit.edu. The following chapter

will detail the methodology to address the research questions presented in Chapter One.

III. Methodology

Overview

This chapter describes the methodology used in conducting this research project. It will describe the case study design and explain why it best fits this study. The chapter will also address what type of data will be collected and how the collected data will be analyzed to answer the research questions presented in Chapter One.

Case Study

The current research uses the case study research strategy. There are three conditions to meet when choosing case study as a research strategy (Yin, 2003). These conditions include 1) the research question(s) posed must be in the form of how or why, 2) the investigator must not have any control over actual behavioral events, and 3) the degree of focus is on contemporary events (Yin, 2003). Table 2 summarizes the strategy for choosing a research design as presented by Yin (2003). This research meets all the criteria for choosing the case study approach for the research strategy. The current research entails an exploratory question asked about a contemporary set of events of which the researcher has no control.

Table 2. Strategy for Research Design (Yin, 2003)

Strategy	Form of Research Question	Requires Control of Behavioral Events?	Focuses on Contemporary Events
Experiment	How, why?	Yes	Yes
Survey	Who, what, where, how many, how much?	No	Yes
Archival analysis	Who, what, where, how many, how much?	No	Yes/No
History	How, why?	No	No
Case Study	How, why?	No	Yes

The following sections will describe how the current research meets each condition set forth in Table 2 for choosing the case study strategy.

Form of Research Question

Research questions fall into one of five categories: "who", "what", "where", "how", and "why" (Yin, 2003). Research questions in the form of "who" and "where" are used when the research goal is to describe the incidence or prevalence of a phenomenon or when it is to be predictive about an outcome and the two categories favor survey and archival research strategies (Yin, 2003). "How" and "why" questions explain incidents and favor experiment, historical account, and case study research strategies. There are two types of "what" questions: 1) exploratory questions are those that develop pertinent propositions for further inquiry which can be used for any of the research designs; and 2) prevalence questions are those stated in the form of "how much" or "how many" and favor survey and archival studies (Yin, 2003).

The purpose of the current research and the type of research questions are in the form of 1) "how", 2) "who", and 3) exploratory "what". As for the "how" question, the current research meets conditions of the form of the question since the goal is to explain how

influence behaviors of key leaders affected the implementation of my.afit.edu. As for the "who" question, this research identifies individuals who exerted an influence in the implementation of my.afit.edu. This research uses exploratory "what" questions to develop a foundation for asking the "how" question, to define the history of the implementation effort, and to identify key party issues with the system. As stated in Chapter One, the research questions are:

(1) What is the history of the academic support system implementation effort?

(2) Who were the key parties (i.e. leaders, end-users, implementers) involved in the implementation?

(3) What were the influence behaviors demonstrated by key leaders during the implementation process of the academic support system as viewed by the key parties?

(4) How did these influence behaviors impact the successfulness of the implementation?

(5) What do key parties view as current/future critical issues with the academic support system?

Extent of Control

The investigator has no control over behavioral events in case study research strategies (Yin, 2003). The implementation effort of my.afit.edu and the key leader influence phenomena are events that occurred prior to the start of this research. The investigator, as such, has no control over actual behavioral events which aligns with the conditions for case study research.

Focus

Case study research strategy is preferred when examining contemporary events (Yin, 2003). The focus of this research is on a contemporary event as opposed to a historical event. Case studies use direct observations of the event and interviews of individuals involved in the event (Yin, 2003).

Research Design

After choosing the case study as the primary research strategy, the design of the research effort was developed. The design of the research effort is very critical in determining "what questions should be addressed, the type of data to collect, and how to analyze the data" (Yin, 2003). There are five components of a research design according to Yin (2003): 1) research questions, 2) propositions, 3) unit of analysis, 4) logic linking the data to the propositions, and 5) criteria for interpreting the findings. The following sections address the five components of the current research's design method.

Components of Research Design

(1) Research Questions. As stated earlier in this chapter, case research addresses the research questions in this study.

(2) Research Propositions. The research propositions present the purpose of the research. The proposition has to address the purpose of the study. The purpose of this research is to present the story of the my.afit.edu implementation effort and how key leaders in the effort influenced users and the eventual success of the implementation.

(3) Unit of Analysis. The unit of analysis defines what the "case" is (Yin, 2003). The units of analysis in this study are AFIT and key parties involved in the

implementation effort. AFIT, as an organization, is considered a unit of analysis because the implementation effort occurred at AFIT. Key parties are considered individuals directly involved in the implementation of my.afit.edu and can provide information to answer the research questions. Key parties include: 1) software programmers of my.afit.edu (AFIT SCA); 2) users of my.afit.edu from the Registrar's office (AFIT RRD); 3) users of my.afit.edu from the graduate school (AFIT EN).

(4) *Logic Linking the Data to the Propositions.* Multiple sources of evidence are a result of the developments of converging lines of inquiry (Yin, 2003). Data for case studies can come from many sources to include documentation, archival records, interviews, direct observations, participant-observation, and physical artifacts (Yin, 2003). This study uses documentation, archival records, interviews, and direct observations. Documentation used in this research includes reports, written correspondence between key parties, and memorandums. Archival records consist of the technical description of the system. Interviews of key parties were conducted to address each of the research questions. Use of my.afit.edu served as a direct observation to provide additional information on the implementation effort.

(5) *Criteria for Interpreting the Research's Findings.* Data collected in case study research is hard to analyze due to imprecise strategies and techniques (Yin, 2003). Yin (2003) details three strategies for analyzing data: 1) relying on theoretical propositions, 2) setting up a framework based on rival explanations, and 3) developing case descriptions. The strategy chosen in this research relies on existing theoretical propositions. Research on influence behaviors and information systems implementation

efforts provided the basis for data collection and served as a guide to analyze the

collected data.

Quality of the Research Design

The quality of the chosen research design determines the reliability and validity of

the study. According to Yin (2003), four tests establish the quality of any empirical

social research: 1) construct validity, 2) internal validity, 3) external validity, and

4) reliability. Case studies are a form of empirical social research so the four tests are

also relevant (Yin, 2003). Table 3 lists the four tests, the tactics used in this research to

address the test, and the phase in which the behaviors are used during the research. The

current research uses the tactics set forth in Table 3 to ensure the research design is

reliable and valid.

Table 3. Case Study Tactics for Design Tests (Yin, 2003)

Tests	Case Study Tactic Used	Phase of the research the tactic was utilized
Construct Validity	• Used multiple sources of evidence • Established chain of evidence • Had key informants review draft of case study report	Data collection Data collection Composition
Internal Validity	• Pattern matching • Cross checked findings with key informants	Data analysis Data analysis
External Validity	• Compared findings to theory in literature	Data analysis
Reliability	• Documented processes and procedures	Composition

Construct Validity

Establishing the correct operational measures for the concepts being studied addresses construct validity (Yin, 2003). Yin (2003) presents several tactics to increase construct validity in case studies: 1) use multiple sources of evidence to encourage convergent lines of inquiry which is used during data collection; 2) establish a chain of evidence that is applicable during data collection; and 3) have key informants review the draft of the case study report. The current research uses multiple sources of evidence from interview transcripts and documentation from a sample of the key parties. Key party reports and documentation help to establish a chain of evidence to tell the story of the implementation of my.afit.edu and how the behavior of key leaders influenced the outcome of the implementation. At the conclusion of the study, key parties reviewed the study report.

Internal Validity

Establishing a causal relationship addresses internal validity (Yin, 2003). Yin (2003) identifies two possible tactics to ensure the internal validity of the research: 1) pattern matching and 2) cross checking the findings of the study with key informants. This research utilizes the two tactics presented by Yin (2003). Pattern matching was used to analyze key party interview transcripts and documentation gathered from key parties to locate trends in the data. At the conclusion of the study, key parties cross-checked the findings of the research.

External Validity

External validity is addressed through the generalizability of the research (Yin, 2003). The focus of this research was information system implementation and influence

behaviors in the context of a unique case. As stated in Chapter Two, the mission of graduating a full-time EN student in eighteen months was the main difference between EN and other graduate schools. This difference necessitated in-house development of my.afit.edu. Even though generalizing a unique instance in case research is difficult, the data gathered from key party interviews was compared to the existing literature.

Influence behavior trends developed from the data analysis of key party interviews and gathered documentation was cross-checked with literature on influence behaviors. Information gathered on the implementation process from both key party interviews and supporting documentation was cross-checked with Zmud's (1982) three-phase implementation model.

Reliability

The goal of reliability is to minimize the errors and biases in a study (Yin, 2003). Reliability in the context of case studies is ensuring that the study is repeatable. Human Subjects Review Protocol documentation, prepared by the investigator, details the specific execution of this study. Appendix A contains the approved Human Subjects Review protocol submitted to the Air Force Research Laboratory, Human Subjects Review Board located at Wright Patterson Air Force Base. Full documentation of research processes and procedures were documented and provided to increase the reliability of this study.

Data Collection

The steps taken to ensure the reliability and validity of the case study research guided the data collection process. This research used semi-structured interviews to

gather data from individuals involved directly or indirectly with the implementation of my.afit.edu. Interviews were conducted on a voluntary basis and individuals chosen to participate were chosen at random from each key party group which included software programmers, users from the Registrar's office, and the graduate school to include faculty, staff, and students present during the implementation (PhD students were exclusively used since they were here prior and during the implementation of my.afit.edu).   The graduate school has six departments and either an education technician or professor from each was interviewed.

Question Development

Interview questions were divided into four topic areas: 1) job background of key parties, 2) my.afit.edu implementation effort, 3) key party identification of influencing individuals and influences experienced, and 4) the current status of my.afit.edu as seen by key parties. Background questions identified whether the interviewee was present during the implementation effort and whether the interviewee was a user of the system. The my.afit.edu implementation effort section solicited the interviewee's point of view regarding the implementation effort, their involvement in the implementation effort and who influenced them during the effort. If an interviewee identified an influencing individual(s) in the implementation effort section, the type of influence exerted by that individual was solicited through a series of questions. The questions regarding the identification of influencing behaviors were taken from studies completed by Enns et al. (2003). The current status of my.afit.edu as seen by the interviewee was identified in the status section.

The interview questions were different based on the key party group in which the interviewee belonged. Exploratory interviews determined that each key party group did not have the same experience during the implementation effort. The interview questions for each group are located in Appendix B.

A pre-test of the interview questions were conducted to strengthen the validity of the questions. Two or more members from each key party group reviewed the questions prior to the actual interviews to ensure the clarity of the questions. In addition to key party member review of the interview questions, students and faculty members of EN reviewed the interview questions. The structure of the interview questions were changed to be more understandable based on results of the pre-test.

Pre-interview Procedures

Due to the size of each key party group, a small sample of interview subjects was chosen at random from each group. Participants were scheduled for an interview at a time and location convenient to them. Prior to the interview each participant was given an informed consent letter, an outline of the interview, and an information sheet on the research. Each participant was asked to sign the informed consent letter and a letter of consent to be quoted before the interview started. At the start of the interview, each participant was asked whether or not they would consent to the interview being audiotaped which aids in the construction of the transcripts.

Data Analysis

Interview transcripts provided the basis for the majority of the data analysis in this research. Documentation gathered from key party members provided additional support

to the data analysis. Three techniques were used to analyze the interview transcripts:

1) comparison of results to theory in the literature, 2) pattern matching, and 3) key

informants review of the transcripts and the final case study report.

Key Informant Review

Interview transcripts were made available to subjects for final approval and

release before the data was analyzed. The transcripts were returned to the participants

and a reply granting or denying release was requested. If a release was not granted or a

reply not received, the interview did not become a part of the research.

Interview transcripts were used in the composition of the case study report. Once

the case study report was completed, key informants were asked to review the report for

accuracy, specifically regarding data on the implementation effort. Key informant

evaluation of the results of the study increased the validity and reliability of the research.

Pattern Matching

A comparison of empirically based patterns with a predicted one describes pattern

matching (Yin, 2003). Patterns that emerged from the interviews of key parties was

compared to the other interviews and to written documentation. The resulting similarities

were identified in the analysis.

Comparison of Results to Theory

As previously stated, the purpose of this research is to investigate how the

influence behaviors demonstrated by key leaders in the implementation of my.afit.edu

affected the system's successfulness. Key party descriptions of the implementation effort

and the actions occurring within each stage were cross-checked with Zmud's (1982)

three-phase implementation model. The identification of influencing behaviors and their

effect on the successfulness of the system are compared to existing research on influence behaviors to include Enns et al's (2003) study.

Chapter Overview

This chapter presented a description of the methodology chosen for this research. This chapter described why and how the case study research strategy was used in this study. This chapter also covered data analysis, data collection, research design and quality issues. The next chapter will present results of key party interviews.

IV. Results

Overview

This chapter presents the results of the research study based on data collected from interviews and written documentation on my.afit.edu. Before the presenting of the results, the approach taken to present the data is discussed. The first two sections will help to answer three research questions of this study, identifying the history of the academic support system implementation effort, the key parties (i.e. leaders, end-users, implementers) involved in the effort, and key party views of the impact of influence behaviors exhibited by key leaders on the successfulness of the implementation. The next section answers the fourth research question of identifying how the influence behaviors demonstrated by key leaders during the implementation effort of the academic support system impacted the effort's successfulness. The last section addresses the fifth research question of identifying critical issues concerning my.afit.edu as seen by key parties.

Interview Data Presentation

Implementation efforts involve the interaction of three groups: 1) users, 2) implementers, and 3) managers. As stated in Chapter Two, the implementation of my.afit.edu involved the participation of three entities within AFIT: 1) AFIT SC, 2) AFIT RRD, and 3) AFIT EN. To aid in the presentation of the data and to ensure anonymity (as requested by interviewees), respondents were assigned to one of these three groups. Figure 6 details the breakdown of the groups that interviewees were

assigned to. Interviewees in SC were either database managers (SCBS) or software

programmers (SCA).   Interviewees in EN were either Faculty and Staff or Students.

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          ┌─────────────────────────┼─────────────────────────┐
    ┌─────────────┐           ┌─────────────┐           ┌─────────────┐
    │ Managers:   │           │ Implementors│           │   Users     │
    │(IPT Members)│           └──────┬──────┘           └──────┬──────┘
    │ Lt Col Mills,│                 │              ┌──────────┴─────────┐
    │ Dr. Wolf,   │           ┌─────────────┐  ┌──────────┐  ┌──────────────┐
    │ and Mr. Baker│          │ AFIT SC:    │  │ AFIT RRD │  │ AFIT EN:     │
    └─────────────┘           │ SCBS        │  └──────────┘  │ Faculty and Staff│
                              │ SCA         │                │ Students     │
                              └─────────────┘                └──────────────┘
```
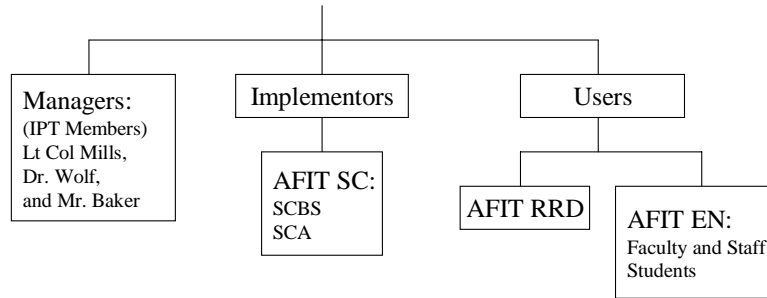
Figure 6. Key Party Categories

As stated in Chapter Three, respondents were asked specific questions based on

their category; questions can be found in Appendix B. Answers and comments by

interviewees are condensed into the most representative issues and can be found in

Appendix C.

Interviewee Background Information

To answer the research questions individuals were chosen from each key party

category. To ensure individuals were able to participate in the study, background

information was gathered. Once the suitability of the interviewee was determined from

background questions, interviewee views of the implementation effort were addressed.

Background data gathered on respondents in IPT, SC, RRD, and Faculty and Staff

included information on their current position title to include their responsibilities and the

number of years in that position. Interviewees were asked whether they were in that

position when my.afit.edu was implemented to further ensure the interviewee was

suitable for the study. Since only students suitable to the study were interviewed, they

were asked which department and program they belonged to. Table 4 presents a synopsis

of the pertinent information: position title and the average number of years in position.

An average of the number of years in the current position was taken to ensure anonymity,

as requested by some interviewees.

Table 4. Respondent Background Information

Key Party Group	Respondents' Position Titles (Number Interviewed)	Average Number of Years in Position
IPT	• SC of AFIT (1) • EN Registrar (1) • Assistant Dean for Academic Affairs (1)	3 years
SC	• Programmer (2) • Database Manager(1)	7 years
RRD	• Assistant to the Registrar (2)	4.5 years
Faculty and Staff	• Education Technician (6) • Professor (3)	10 years
Students	• PhD Candidate (2)	N/A

Respondents from the IPT key party group were senior leaders from EN, RRD,

and SC, the Assistant Dean for Academic Affairs, Dr. Paul Wolf, the Registrar for the

School of Engineering and Management (EN Registrar), Mr. Randell Baker, and the

Director for Communications and Information for AFIT (SC of AFIT), Lt Col Robert

Mills, respectively. All IPT respondents had worked in their positions for at least 2 years

and were present during the implementation of my.afit.edu.

Respondents interviewed from the SC key party group worked directly with

my.afit.edu throughout its planning and implementation as a web administrator and/or

programmers. Their duties ranged from developing the software and maintaining the

database, to distributing tasks to subordinates within their organization. Each of the respondents interviewed had worked in their position for more than 3 years and was in the same position during the planning and implementation of my.afit.edu.

RRD key party group respondents perform various tasks for students to include class registration, scheduling of courses, and assorted duties associated with graduation. The respondents interviewed had worked in their positions for at least 3 years and were in the same position during the planning and implementation of my.afit.edu.

Faculty and Staff key party group respondents included six education technicians (Ed Techs) and three professors to include a Department Head. Ed Techs duties encompass everything associated with meeting the students, faculty, and EN needs. Meeting the needs of students, faculty, and EN include registration of the students, the upkeep of the student database from a departmental point of view, and assisting faculty when required. Professor duties include teaching, research, and service. Respondents worked in their positions for at least 2 years and were in the same position during the planning and implementation of my.afit.edu.

The two students interviewed were both doctoral candidates who were present during the implementation of my.afit.edu. Masters students were not used in this study because the current Masters Degree candidates were not present prior to the implementation of my.afit.edu; the current Master's students arrived once my.afit.edu was brought on-line.

Research Questions One and Two Results

The first two research questions of this study were:

(1) What is the history of the academic support system implementation effort?

(2) Who were the key parties (i.e. leaders, end-users, implementers) involved in the implementation?

Interviewees provided further support of the history of the my.afit.edu implementation effort given in Chapter Two. Zmud's (1982) three-phase implementation model previously discussed in Chapter Two provided a way to discuss the various phases of the my.afit.edu implementation effort. Table 5 presents the three stages of the my.afit.edu implementation effort with a description of how it corresponds to Zmud's (1982) model. The stages of the implementation effort contain the activities completed by each group during the associated stage. Implementation data gathered on respondents in IPT, SC, RRD, and Faculty and Staff concerned how respondents participated in the planning and implementation of my.afit.edu. Students were asked how they were introduced to the system.

Table 5. my.afit.edu Three Stages of Implementation (Zmud, 1982)

	Initiation:	Adoption:	Implementation:
IPT	Set initial requirements for a new student academic support system	Provided oversight and vision	• Set use policies • Participated in testing the system
SC	Participated in refining the requirements of the system	Developed the system	Maintains the system
RRD	Participated in refining the requirements of the system	• Identified additional requirements • Participated in beta testing the system	Participated in testing the system
Faculty and Staff	None	Attended informational meetings on the system and provided feedback to SC	Uses the system
Students	None	None	Uses the system

IPT respondents played a major role in the initiation phase of my.afit.edu. The team decided on the need for a new system and set up the initial requirements. The IPT provided support in the form of oversight and vision to workers within their organization for the system during the adoption and implementation stages. The IPT also ensured that their respective organization stayed on top of tasks delegated by SC. The Registrar and the Assistant Dean for Academic Affairs set the programmers' priorities of deliverables for the system. Besides the setting the vision for offices in SC, the SC of AFIT provided system oversight and let organizations work specific issues with the system.

SC and RRD respondents were part of all three stages of the implementation effort of my.afit.edu. Both organizations participated in refining the initial requirements set forth by the IPT. During the adoption stage, several meetings were held between SC, RRD, and the academic affairs leadership in EN to identify the requirements for the system by mapping out the process required for a student to successfully graduate from the graduate school. Once the requirements of the system were identified, SC conducted further meetings with the users and started writing the code for the system. Since the existing system is on a client/server platform, SCA had to learn a new program, Cold Fusion, to implement the new system. After a crash course in Cold Fusion, SCA, with the help of the SCBS, wrote the code for the new system. The first module completed by SCA was making the EN class schedule available on the web. After making the class schedule available online that pulled directly from the database, other modules were implemented. As portions of the system were brought online by SCA, RRD participated in testing specified portions of the system. Once the system was operational during the Fall 2002 academic quarter, the system moved into the implementation stage.

Throughout the implementation stage, RRD worked with students in using the system and identifying problem areas to SCA. SCA is charged with providing continued maintenance of the system.

Unlike RRD and SC, Faculty and Staff were generally not included during the initiation and adoption stages during the implementation effort. Meetings were conducted by SCA to present the system to Faculty and Staff. SCA encouraged and actively sought Faculty and Staff's inputs into the system. The general impression from Faculty and Staff was that they were presented with a system to start using and were not given a chance to voice concerns during the initial conception of the system. Even though none of the interviewed respondents participated in testing, SCA did request help in testing the system. SCA requested help in testing out that module before bringing online a new module concerning Faculty and Staff. In addition to help from Faculty and Staff requested by SCA, one interviewed Faculty member provided suggestions for tasks and content of the new system to Dr. Wolf. Faculty and Staff did play a role in the implementation of the system since they were daily users.

Student participation during the three implementation stages mirrors Faculty and Staff. Students were not part of the initiation and adoption stages but were daily users during the implementation stage. Students were introduced to my.afit.edu through an email from Dr. Wolf and guidance provided by advisors. The process of registering for classes dramatically changed for students through use of the new system. Instead of registering for classes on paper, students submitted their schedules electronically through my.afit.edu. Course offerings were located on the portal for students to reference. Completion of education plans changed for students also. Students now had to complete

their education plan through the portal and submit it to their advisor who in turn approved the education plan via the portal.

Research Question Three Results

In addition to answering the first two research questions, the implementation portion of the interview addressed the third research question of identifying the influence behaviors used by key leaders during the effort.

(3) What were the influence behaviors demonstrated by key leaders during the implementation process of the academic support system as viewed by the key parties?

Table 6 presents a synopsis of the identified influencing individuals and a general description of their influence.

Table 6. my.afit.edu Influencing Individuals and General Descriptions of their Influence

Key Party Group	Identified Influencing Individuals and General Description of their Influence
IPT	• None
SC	• Lt Col Mills – Supported the system and provided vision to AFIT SC members • Mr. Lacey – Provided guidance to AFIT SC members • Ms. Houston –Diligent in ensuring the completion of the system
RRD	• Dr. Wolf, Mr. Baker, & Ms. Wedekind – Provided direction on the how the system would operate
Faculty and Staff	• SC (Ms. Houston) – Very helpful, encouraging, and approachable for users to voice problems or inquiries of system procedures • Dr. Wolf & Mr. Baker – Initially notified Faculty and Staff of the impending change to the new system • Ms. Wedekind – Encouraged Ed Techs in testing out the system early in the implementation phase
Students	• Dr. Wolf – Initially notified students of the new system through email and directed students to start using the new system • Faculty Advisors – Directed to start using

After identifying an influencing individual, each respondent was asked seven questions, taken from Enns et al (2003), to help identify the specific influence tactic(s) used and how often the tactic(s) were used.   The influence tactics under consideration were: 1) rational persuasion, 2) consultation, 3) exchange, 4) coalition, 5) pressure, 6) ingratiation, and 7) personal appeals (Enns et al., 2003). The frequency of use of the influence tactic was based on a five-point scale (Enns et al., 2003): 1) can't remember, 2) seldom, 3) occasionally, 4) moderately, and 5) often. The following paragraphs will present the frequency of influence behaviors used by influencing individuals as identified by key party groups.

Student respondents identified Dr. Wolf, the Assistant Dean for Academic Affairs of EN, and their faculty advisor(s) as individuals who most influenced their use of my.afit.edu. For one student respondent, Dr. Wolf influenced their use through the initial notification of the portal's availability and encouraged students to try out the new system. For the other student respondent, they were directed by their advisor to start using the system.

One respondent considered Dr. Wolf to use rational persuasion often and coalition and pressure occasionally. In contrast, another respondent identified their advisor as using exchange, coalition, pressure, ingratiation, and personal appeals often and the remaining two influence tactics less often. Table 7 presents a synopsis of the responses from Students concerning the influencing individual and the frequency of use for an influence tactic. For each identified influencing individual an average of the responses were calculated.

Influencing Individual (Position title)	Frequency of Influence Behavior Used (as identified by AFIT EN Students)			
	Seldom	Occasionally	Moderately	Often
Dr. Wolf (Assistant Dean for Academic Affairs)		Coalition and pressure		Rational persuasion
Advisor(s)	Consultation		Rational persuasion	Exchange, coalition, pressure, ingratiation, and personal appeals

For Faculty and Staff, SC, Ms. Houston in particular, Ms. Wedekind, Dr. Wolf, and Mr. Baker influenced their utilization of the system. For one respondent, the change from a client/server platform to a web-based platform, initiated their use of the system. Other respondents identified Ms. Houston as being very helpful, encouraging, and approachable when they encountered problems within the system. The influence exerted by Dr. Wolf and Mr. Baker were through the meetings held concerning the system during the initial introduction. One respondent found Ms. Wedekind's encouragement in using the system as an influence in their use. There were also respondents who were not influenced by others to use the system, they just started using the system since it was the only tool available in completing certain aspects of their job.

Faculty and Staff identified individuals from SC and EN management as influencing individuals. Respondents identified Ms. Houston as using rational persuasion often while SC as an organization used consultation often. Coalition and ingratiation were used less often than consultation. Ms. Houston used consultation moderately, coalition occasionally, and exchange and personal appeals seldomly. The more frequently used tactics by EN management also differed. Ms. Wedekind was identified

as using consultation moderately whereas, rational persuasion was used the most by Dr. Wolf. One respondent from Faculty and Staff identified themselves as influencing their use of the system. The influence centered on the realization that they had to either accept the change so they could do their job; personal appeals was identified as being moderately used. Table 8 presents a synopsis of the responses from Faculty and Staff concerning the influencing individual and the frequency of use for an influence tactic. For each identified influencing individual an average of the responses were calculated.

Table 8. Influencing Individual's Frequency of Influence Behavior Used (EN Faculty and Staff)

Influencing Individual (Position title)	Frequency of Influence Behavior Used (as identified by EN Faulty and Staff)			
	Seldom	**Occasionally**	**Moderately**	**Often**
AFIT SC	Ingratiation		Coalition	Consultation
Ms. Houston (Lead Programmer/ SCA)	Exchange and personal appeals	Coalition	Consultation	Rational persuasion
Ms. Wedekind (Lead Ed Tech/ AFIT EN)		Rational persuasion, coalition, pressure, and personal appeals	Consultation	
Dr. Wolf (Assistant Dean for Academic Affairs)	Coalition	Consultation	Rational persuasion	
Self	Rational persuasion, consultation, and pressure		Personal appeals	

Mr. Baker, Dr. Wolf, and Ms. Wedekind were identified by RRD as influencing individuals. The influence of the three individuals involved their guidance on how the

system was going to operate. Their input into the system was seen as a strong influence on where the system stands today.

The influence of Dr. Wolf and Ms. Wedekind were grouped together because they were identified as a pair. Pressure from Dr. Wolf and Ms. Wedekind was often used to influence respondents from RRD. Coalition and personal appeals were used moderately and rational persuasion, consultation, ingratiation, and exchange were used occasionally. RRD respondents considered the influence exhibited by Mr. Baker to lean more towards rational persuasion and ingratiation. The remaining influence tactics, pressure, coalition, personal appeals, consultation, and exchange were used less often. Table 9 presents a synopsis of the responses from RRD concerning the influencing individual and the frequency of use for an influence tactic. For each identified influencing individual an average of the responses were calculated.

Table 9. Influencing Individual's Frequency of Influence Behavior Used (AFIT RRD)

Influencing Individual (Position title)	Frequency of Influence Behavior Used (as identified by AFIT RRD)			
	Seldom	**Occasionally**	**Moderately**	**Often**
Dr. Wolf (Assistant Dean for Academic Affairs) and Ms. Wedekind (Lead Ed Tech)		Rational persuasion, consultation, ingratiation, and exchange	Coalition and personal appeals	Pressure
Mr. Baker (AFIT EN Registrar)	Consultation and exchange	Coalition and personal appeals	Pressure	Rational persuasion and ingratiation

Respondents from SC identified SC leadership as influencing individuals, Lt Col Mills, AFIT SC, Mr. Lacey, Deputy AFIT SC, and Ms. Houston, lead programmer.

Respondents identified the support and vision given by Lt Col Mills as influencing factors. Ronda Houston was also identified as an influencing individual through her diligence in ensuring the system stayed on track. The guidance provided by Mr. Lacey to SCA members played a role in his being considered as an influencing individual.

All three respondents from SC identified Lt Col Mills as an influencing individual and he was considered to have used rational persuasion often. Lt Col Mills used consultation and coalition moderately. Exchange and pressure were used occasionally while ingratiation and personal appeals were seldomly used. Rational persuasion and coalition were moderately used by Mr. Lacey to influence one of the SC respondents. Consultation and exchange were occasionally used and pressure, ingratiation, and personal appeals were seldomly used. One of the respondents felt that Ms. Houston used pressure often to influence their use of the system. Rational persuasion, exchange, ingratiation, and personal appeals were used moderately and consultation and coalition were occasionally used. Table 10 presents a synopsis of the responses from SC concerning the influencing individual and the frequency of use for an influence tactic. For each identified influencing individual an average of the responses were calculated.

Table 10. Influencing Individual's Frequency of Influence Behavior Used (AFIT SC)

Influencing Individual (Position title)	Frequency of Influence Behavior Used (as identified by AFIT SC)			
	Seldom	**Occasionally**	**Moderately**	**Often**
Lt Col Mills (SC of AFIT)	Ingratiation and personal appeals	Exchange and pressure	Consultation and coalition	Rational persuasion
Mr. Lacey (Deputy SC of AFIT)	Pressure, ingratiation, and personal appeals	Consultation and exchange	Rational persuasion and coalition	
Ms. Houston (Lead Programmer)		Consultation and coalition	Rational persuasion, exchange, ingratiation, and personal appeals	Pressure

Members of the IPT identified different influence factors but not a specific individual. For the SC of AFIT, Dr. Heminger's report helped to frame the system and provide guidance of where the system should be technically. Student needs were an important factor in determining the requirements for the Registrar. The Assistant Dean for Academic Affairs did not identify an influencing individual but took into consideration the user needs when setting up the initial requirements of the system.

Research Question Four Results

The fourth research question in this study was:

(4) How did these influence behaviors impact the successfulness of the
    implementation?

During the implementation portion of the interview, interviewees were asked to identify individuals who influenced their use during the implementation effort. Next, interviewees were asked their view of how they feel the implementation process went. Determining the

effect of influence behaviors on the successfulness of the system is based on the type of influence exerted on the interviewee and the interviewee's view of the implementation.

IPT members agree that the initiation and adoption stages of the implementation effort went smoothly considering what the project started from, a flawed product. IPT respondents offered different opinions on the implementation stage. One respondent considered the implementation stage rough because of the considerations of having to deal with people and change. Another respondent was satisfied with the implementation but expressed a frustration at the limits on the progression of the system due to manpower constraints. Influence behaviors did not have an impact on the successfulness of the system for IPT members since there were not any influence behaviors identified in the previous section.

Unlike the IPT members, SC identified several individuals as exerting an influence. The consensus of the implementation effort of my.afit.edu as viewed by SC was positive. SC respondents felt the initiation stage went fairly well. Rational persuasion used by Lt Col Mills during the initiation stage provided SC with understanding of what was required and why it was required. The only negative experiences for SC occurred during the adoption stage. Issues regarding requirement and process identification resulted in frustration during the adoption stage. The lack of standardization at the start of the effort further complicated the adoption stage. One respondent from SC applauded the quick pace of the implementation effort. A combination of influence tactics used by Ms. Houston impacted the successfulness of the implementation effort. Rational persuasion in combination with personal appeals and ingratiation provided encouragement for SC members to keep working towards

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producing a quality product for the users. Instead of having a negative influence on the successfulness, the pressure exhibited by Ms. Houston had a positive effect on respondents from SC. SC respondents also viewed the implementation stage in the same vein as the prior two stages. The rushed deadline and garnering management buy-in presented obstacles during the implementation stage. Once SC got past these obstacles, they were able to present a quality product.

RRD respondents experienced frustration in the initiation stage. One respondent observed a shift in the focus of the project that resulted in a feeling of frustration. Like Lt Col Mills with SC respondents, Mr. Baker used rational persuasion with members of RRD. In addition to rational persuasion, Mr. Baker used ingratiation. The combination of rational persuasion and ingratiation helped RRD in understanding the overall requirements of the system and what needed to be accomplished. After SC, RRD, and EN were on the same page as far as understanding the system requirements, the adoption stage went along smoothly. Unlike Mr. Baker, EN leadership used pressure during early stages of the implementation effort. The pressure exerted by EN leadership contributed to the feelings of frustration some of the RRD respondents were having. Coalition and personal appeals used by EN leadership alleviated the frustrations of RRD. As far as the implementation stage, RRD respondents feel as though it is not complete. As long as there are functions that must be completed in STARS and the requirement to test modules, the implementation stage is an on-going process. Even though the implementation effort is not complete, RRD is satisfied with the way things are going. The feeling of contributing in the development of the system contributed to RRD viewing the implementation effort as a success.

Faculty and Staff respondents did not feel as though they were part of the early implementation stages. Faculty and Staff respondents were brought in during the adoption stage to provide feedback in the development of the system. Rational persuasion and consultation used by Ms. Houston aided Faculty and Staff in accepting the new system. In addition to assistance of Ms. Houston, the aid provided by SC helped in the acceptance of the system by Faculty and Staff. There were not any negative effects but there was a feeling of the need for consultation to be used by EN leadership. Some Faculty and Staff did not feel as though their opinion was accepted by EN leadership.

Research Question Five Results

The last research question in this study was:

(5) What do key parties view as current/future critical issues with the academic support system?

To answer the research question respondents were asked their opinion of the status of my.afit.edu. Respondents identified issues they saw with the system that could lead to problems later on.

EN Student Views on Future and Critical Issues of my.afit.edu

Current student access of my.afit.edu is sporadic, generally once an academic quarter. Students accessed my.afit.edu primarily to view their schedules and register for courses. Periodically they review their education plan and schedule through the portal. At the end of the quarter, students check their course grades. Depending on the where a student is in an academic quarter and any required actions, their usage changes.

Students expressed a concern about internet accessibility for the portal. Respondents raised the issue that if the internet is down, access to the portal is down. Extended internet outages can cause a problem for users of the system; currently, internet accessibility has not been a problem for the system. For students who take the same classes each quarter, dissertation research, instead of having to go in the system to register, having an automatic registration would benefit those students. For many quarters, their schedule will not change and having to go in to register each quarter is inefficient. In addition to automatic registration, having available program templates for students would make registration and education plan development during the initial Fall quarter go smoothly. Table 11 presents a summary of the student views of my.afit.edu to include why they access the system and issues they feel need to be addressed with the system.

Table 11. Student Views Critical and Future Issues of my.afit.edu

Reasons for Use	Critical/Future Issues
• Review grades • Review education plan • Registration for classes • Review current class schedule	• Automatic registration capability • Education plan templates • Access capabilities not dependent on internet accessibility

EN Faculty and Staff Views on Future and Critical Issues of my.afit.edu

In contrast to student use of my.afit.edu, Faculty and Staff access my.afit.edu on a daily basis, at times several times a day. Different times of the academic year require more frequent access than others, specifically around graduation. Faculty and Staff access the portal for a multitude of reasons. The majority of the time, Faculty and Staff

are completing tasks associated with students and courses. Faculty and Staff approve education plans, enter grades, thesis information, and information required for graduation. Course maintenance completed by Faculty and Staff include completing course offerings and printing class rosters. Respondents also use the portal to locate students within their department in case of an emergency or to relay a message.

The majority of Faculty and Staff concerns center around policy issues vice issues with the technical aspects of the system. Policies concerning access to students' data, linking education plans and course registration, and registration deadlines presented problems for Faculty and Staff. Ed Techs and Faculty members expressed the need to view, read-only access, education plans of students not in their department. With students being able to take classes in other departments, it is an inconvenience for Faculty and Staff to have to track down members of a student's department to see whether or not a student has taken a pre-requisite for a course. In addition to policy issues, Faculty and Staff expressed a need to develop their own queries within the system; currently there are pre-programmed queries that Faculty and Staff can run. An Ed Tech stated that navigation through the system to the process of entering student data could be more efficient. Table 12 presents a summary of the Faculty and Staff view of my.afit.edu to include why they access the system and issues they feel need to be addressed with the system.

Table 12. Faculty and Staff Views Critical and Future Issues of my.afit.edu

Reasons for Use	Critical/Future Issues
• Review of education plans • Associated thesis input tasks • Finding publications and forms • Associated course input tasks • Tracking of students • Associated graduation tasks	• Read only access of all student's education plans • Ability to develop personal ad hoc queries • Manual entry vice scrolling through lists • Link between education plans and courses • Eliminate the need to access STARS • Overlap of Professor and Ed Tech modules • Reevaluation of the deadlines set during the Fall quarter for new students in regards to generating an initial education plan and registering for Fall courses • Access capabilities not dependent on internet accessibility

RRD Views on Future and Critical Issues of my.afit.edu

RRD respondents access my.afit.edu several times a day. The primary reasons for access include scheduling and assisting with student needs. RRD can check student schedules, assist with problems students may be having, and review student records. RRD also adds and removes courses through the portal.

Scheduling and tracking changes made within the system are concerns RRD respondents consider critical. Whenever a grade is changed or entered in my.afit.edu, RRD expressed a need to see who performed the addition. SCA stated that audit trails are currently available within the system but access is limited to personnel in SCA. Scheduling is an on-going problem RRD is faced with and will continue to face until a process is developed to correct the problem. Table 13 presents a summary of RRD views of my.afit.edu to include why they access the system and issues they feel need to be addressed with the system.

Table 13. RRD Views Critical and Future Issues of my.afit.edu

Reasons for Use	Critical/Future Issues
• Associated tasks with scheduling students for courses • Assist students with questions on the system • Associated course tasks	• Fix class scheduling problems (to include class times and classroom assignments) that occur at the start of each academic quarter • Reestablish the ability for RRD to view audit trails in the system for actions to include grade changes

SC Views on Future and Critical Issues of my.afit.edu

Respondents from SC are constantly in the system developing and testing. SCA respondents may access my.afit.edu as much as 20-30 times a day; development and testing require repeated access of the system. SCBS does not require constant access to the system; they only access the system to assist with any problems SCA may have.

SC respondents expressed concerns with broader AFIT access to the portal, security, and standardization. Standardization between the screens is an area that needs to be addressed as modules and functions are brought into my.afit.edu. The addition of more modules and functions in to my.afit.edu allows SCA to integrate additional AFIT schools into the portal. AFIT Civilian Institution Programs (CI) and AFIT Civil Engineer and Services (CES) have submitted a request for SCA to offer a product similar to my.afit.edu for their school. With the mandate by the Air Force (AF) to start using common access cards (CAC) for computer use, AFIT is faced with non-compliance. With non-DoD students and foreign nationals having access to AFIT computers, AFIT is faced with not being able to provide all of their students with computer access; AFIT is currently working to resolve the issue. Table 14 presents a summary of SC views of

my.afit.edu to include why they access the system and issues they feel need to be addressed with the system.

Table 14. SC Views Critical and Future Issues of my.afit.edu

Reasons for Use	Critical Issues
• System development • System testing • Assistance with coding of the system • Tracking problem tickets	• Expand access of the system AFIT-wide to include distance learners, CI, and CES • Address security issues concerning the AF mandate to use CAC • Standardization across the system modules

IPT Views on Future and Critical Issues of my.afit.edu

IPT members seldom accessed my.afit.edu. Periodically they assist with testing of the system or to monitor the system. Critical issues identified by IPT respondents included concerns of portal proliferation and data integrity. Since STARS, the client/server application accessing student academic information, is still being used, AFIT SC has to consider all of the structures present in STARS and preserve them in my.afit.edu. With the increase in portal applications, user ease of use is a concern for one IPT respondent. Access to different portal applications located on the AFIT network is an inconvenience for users since they are required to log-in to each system. Having only one log-in would make using the systems more efficient to users. In order for my.afit.edu to provide what users need, feedback is a necessity. One IPT respondent views feedback from users as being a critical issue for the system. Without feedback to the programmers or managers, changes that benefit the users is impossible. More communication between users and implementers will result in a better product. Table 15 presents a summary of IPT views of my.afit.edu to include why they access the system and issues they feel need to be addressed with the system.

Table 15. IPT Views Critical and Future Issues of my.afit.edu

Reasons for Use	Critical Issues
• Monitoring what's available • Assistance with testing	• Seemless integration with other portal applications • Encourage feedback from the users • Address issues as they arise with the proliferation of portal applications • Eliminate structures from the old system • Continue maintenance and enhancements of the system • Eliminate the need to access STARS

Chapter Overview

This chapter presented the results of personal interviews of individuals involved in the my.afit.edu implementation effort. Respondents discussed their backgrounds, their participation and thoughts on the planning, implementation, and current status of my.afit.edu, and identified individuals who influenced their use of the system. The next chapter uses the information gathered in this chapter to encapsulate all the lessons learned from the implementation effort of my.afit.edu.

V. Discussion, Recommendations, and Conclusions

Overview

The purpose of this research was to investigate how the influence behaviors demonstrated by key leaders in the implementation of the AFIT student academic support system, my.afit.edu, affected the successful implementation of the system. Exploratory interviews identified five groups participating in the implementation of the my.afit.edu: integrated project team (IPT), software programmers (AFIT SCA and AFIT SCBS), AFIT School of Engineering and Management (AFIT EN) registration personnel (AFIT RRD), EN faculty and staff, and EN students. Randomly chosen personnel from each group participated in interviews. This chapter discusses the results of the interview data obtained in Chapter Four along with limitations of this research and suggestions for future research.

Discussion of my.afit.edu Implementation

Comparing interview data from each group provided a description of the implementation effort. Zmud's (1982) three stages of implementation provides a foundation for analysis of the my.afit.edu implementation effort. The need to improve the functionality of STARS initiated the implementation effort of my.afit.edu. Since the users of STARS recognized the need to improve the functionality, the implementation effort started out on the right track. The actions occurring during each phase of the implementation effort were parallel to what the literature identified. The concept for my.afit.edu was established in the initiation stage. SC developed the system during the adoption stage with the assistance of RRD and EN. RRD and EN started using the

system during the implementation stage with SC performing maintenance and expansion tasks.

The issues facing AFIT during the implementation of my.afit.edu also mirrored the literature on issues encountered in IS implementation. Anticipating the needs of the users by both management and implementers addressed problem areas before they affected the successfulness of the system. Meetings during the each stage of the implementation effort between users and implementers reinforced user involvement with the production of the system. User testing and training also gave users more of a say in how the system was developed and played a role in increasing user acceptance.

One key area of the implementation effort was the turn-around of SC in meeting the user needs and playing an important role as implementers. The change from system-determined theory (Markus, 1983) in implementing systems to a people-plus-system determined theory (Markus, 1983) helped SC in addressing the needs of the users in a timely manner. In addition to changing the way SC included users in system development, SC also changed the way they presented the system to the user. Instead of presenting only the positive aspects and assuring system development that meets all the needs the user specifies, SC provided users with a realistic account of their capabilities in producing a system. SC increased user trust by not setting unrealistic goals and meeting suspenses set forth in meetings.

The results of this study support several research findings on the successfulness of IS implementation efforts. Primarily, user's acceptance played a major role in the successfulness of the system. Garnering user support at the outset of the implementation effort justified the need for a change in application software. In addition to user support,

management support of the system was crucial. Without management support, justifying

the need for a change in software would have been more difficult. The quality of

my.afit.edu also played a role in the successfulness of the implementation effort. The

drastic change from client/server architecture to a portal based technology played a role

in user acceptance of the system.

Discussion of Key Leader Influence Behaviors

As stated in Chapter Two, consultation, exchange, ingratiation, personal appeals,

and rational persuasion, used alone or combined with a soft influence behaviors were

effective. Consultation was a very effective tactic identified in this research. In

garnering user acceptance of the system, SC leadership commonly used this tactic

resulting in a positive outcome. The acceptance of the system by users was aided by

them being included in the testing of the system and were provided with training of the

system. The most effective and commonly used influence behavior was rational

persuasion. Users and implementers want to know why they are going through an

implementation effort and how the change will benefit them. Rational persuasion was

common in downward and lateral influence attempts and resulted in a positive outcome,

acceptance of the system.

In studying the influence behaviors of individuals involved in the implementation

effort, three individuals stood out as key in the implementation effort: 1) Lt Col Mills of

SC, 2) Ms. Houston of SC, and 3) Dr. Wolf of EN. The vision of Lt Col Mills kept the

members of SC on track to completing a quality product for the users and changing their

attitude in how to approach system development. The lateral influence of Lt Col Mills

ensured the continued support of both EN and RRD leadership. The support of leadership went a long way in user acceptance of my.afit.edu. The lateral influence of Ms. Houston reinforced management's support of the system within EN and RRD. Users applauded Ms. Houston's approach in the system development cycle and her willingness to address concerns. Ms. Houston supported the turnaround in system development philosophy in SCA. As lead programmer within SCA, Ms. Houston kept the programmers on track to completing the system on time and to user standards. Dr. Wolf's support of the system and mandate to use the system has had an impact on EN, the majority of the users. Dr. Wolf's support also had an impact RRD's acceptance of the system. Dr. Wolf's requirements of the system drove some of RRD's requirements.

Discussion of the Status of my.afit.edu

Interviewee concerns with the system fell into two groups: 1) system use policies and 2) future technical needs of the system. The majority of the issues raised by EN Faculty and Staff centered on policy directives. System access requests expressed as necessary by some EN Faculty and Staff were denied due to policies set forth by EN leadership. The request to view records of all current EN graduate and PhD students instead of just members in a certain department is a capability that EN leadership does not feel that each department should have. Faculty and Staff express the need to view all students because some of the students taking courses within a department are from other departments. EN developed the policy to in an effort to ensure student privacy. Another policy issue expressed by interviewees was the suspense dates set forth for registering for classes for new graduate students during the Fall academic quarter. Some interviewees

expressed the need for more time to work with students in preparing student education plans and registering for courses. Due to the lack of time between the start of the Fall academic quarter and the arrival of the new students, RRD has to set the suspense dates as they are.

The second major issue of concern for interviewees is future expansion and accessibility needs of the system. The most common issue was the accessibility of the internet. Users of the system expressed the concern that if the internet is down in AFIT, they do not have the capability to access the portal. The accessibility of the internet will not affect users on the AFIT network since access to the system does not require outside internet access to the system. One key concern addressed by an interviewee for the system is the new Air Force requirement for common access card use for government systems. The main issue with the mandate to use common access cards is that not everyone within AFIT, especially some of the students, has a card and may not receive a card. If not everyone has a card, registering for classes and other associated actions will not be possible.

Limitations

This research acknowledges several limitations. The major limitation in this study was the number of interview subjects chosen from EN. More than five hundred EN personnel took part in the implementation of my.afit.edu but only six EN personnel were interviewed for this research. Even though a representative sample was sought after in this research, time constraints for completing the research did not allow for more EN interview subjects. In addition to research time constraints, interviewing EN Master's

degree students who participated in the implementation effort was not possible. The EN Master's students who took part in the implementation effort had graduated and were not available to be interviewed given the time constraints. EN Master's students who were available to interview were not present during the implementation.

Another limitation of the study was obtaining additional sources of evidence. The amount of additional documentation and archival records was limited to the amount on hand from the interview subjects. IPT and configuration control board minutes were not available due to the fact that minutes were not taken during those meetings. For some of the IPT meetings, tasks summaries were sent via email but actual meeting minutes were not available. Email messages sent to members of EN either directing use of my.afit.edu or announcing meetings concerning the system were also not available. The members of EN interviewed did not keep a copy of those emails but they did note that they were sent.

The final limitation of this study is the bias introduced from both the investigator and the interview subjects. To mitigate bias from the investigator a script was followed for each interview; Appendix B contains the interview scripts. Interviewee bias was addressed through triangulation of interview transcripts and documentation and cross-checking data with other interview transcripts. Data concerning interview subjects opinion, results to research questions three through five, were not altered.

Suggestions for Further Study

AFIT has several opportunities for future research in implementation efforts and influence behaviors. SC is implementing other systems within AFITMIS. SC is currently building a new application for AFIT Civil Engineering and Services School's

registration system. SC's goal is to completely move everything within AFITMIS to the portal and move from the client/server application to portal technology. A comparison of implementation efforts could provide additional examples of the impact of influence behaviors and the successfulness of implementation efforts.

As previously stated, EN's student academic support system does not mirror those at other graduate schools. Comparing and contrasting EN's student academic support system implementation efforts to other graduate school implementation efforts can provide academic institutions best practice examples in implementing academic support systems. In addition to studying implementation efforts in higher education, IS implementation efforts in industry can provide additional information on the impact of influence behaviors in implementation efforts.

In addition to studying other implementation efforts, further research can be accomplished concerning the relationship between an influencing individual's technical background and his or her use of influence. Enns, Huff, and Golden (2003) completed a study looking at the relationship between a Chief Information Officer's (CIO) technical background and their use of influence behaviors. The study completed by Enns, Huff, and Golden (2003) showed that a CIO's level of technical background was not associated with how success they can influence their peers. CIO's with high levels of technical background were hypothesized as not being able to effectively communicate with peers. There was not a difference between CIO's with high levels of technical background than those with not so high background. Specifically looking at influencing individuals in SC to see how their technical background and their use of influence behaviors impact the successfulness of the system.

Conclusion

Management and implementers face many problems when introducing new information system. Addressing common implementation issues during the first two stages of the implementation effort goes a long way in easing the transition for users. Including users in identifying the requirements of the system and throughout system development increases their acceptance of the new system. The group meetings held by SC during the implementation of my.afit.edu included users in the development of the system. Completing the system without user input would not have resulted in as positive an outcome for the system. Due to the time constraints in making the system operational, user support was crucial during the testing phases of the system.

Unwavering management support during an implementation effort sets the tone for a new system. Management support through either policies or rational persuasion conveys the importance of the system to users. Systems have failed because of the lack of management support. My.afit.edu's success can be tied to management and implementers and their ability to address user concerns early in the implementation effort and the use of positive influence behaviors throughout.

Appendix A: Human Subjects Protocol Package

DEPARTMENT OF THE AIR FORCE
AIR UNIVERSITY (AETC)

2 June 2003

MEMORANDUM FOR AFIT/ENV
AFIT/ENR
AFRL/HEH

FROM: AFIT/ENV

SUBJECT: Request for Human Subjects Review (Non-exempt)

1. I am requesting your approval of a study to investigate a specific information system (IS) implementation and the accompanying role of influence behaviors of key leaders involved in the effort. This research will involve an in-depth case study of the AFIT academic support system, my.afit.edu, implementation effort. The research will be used to validate existing literature on information system implementation as well as more recent literature that discusses the role of influence behaviors in such IS implementations.

2. The information requested by the AFRL/AFIT Human Subjects Review Board that details the specifics of the project are described in the attached documents. However, to quickly summarize, the proposed project requires interview sessions with AFIT personnel to obtain their view on the implementation effort and their perceptions regarding key leader influence behaviors witnessed during the implementation effort.

3. I hope this adequately outlines our objective to record and investigate an innovative AFIT effort. Thank you in advance for your time and effort in reviewing this protocol. If there is anything else I need to do, feel free to get in touch with me. I can be reached by phone at (937) 255-3636 extension 4826. If you prefer, please feel free to send any questions via e-mail to me at summer.bartczak@afit.edu or by fax at (937) 656-4699.

SUMMER E. BARTCZAK, Lt Col, USAF
Asst Prof of Information Resource Management
Dept of Systems and Engineering Management
Graduate School of Engineering

Attachment
Study Protocol

1. Title: An Investigation of the Role of Influence Behaviors in Information System Implementation: A Case Study of the Air Force Institute of Technology (AFIT) School of Engineering and Management (EN) Academic Support System Implementation

2. Principal Investigator: Lieutenant Colonel Summer E. Bartczak; AFIT/ENV; 255-3636, ext. 4826; summer.bartczak@afit.edu.

3. Associate Investigator(s): First Lieutenant Mary M. King, AFIT/ENV; 255-3636, ext 6179; mary.king@afit.edu.

4. Medical Monitor: Not applicable.

5. Contractor and/or Facility: Not applicable.

6. Objective:

The objective of this research is to conduct a case study investigation of information system (IS) implementation and the accompanying role of influence behaviors of key leaders involved in the effort. By examining, in-depth, the case of the academic support system, my.afit.edu, implementation, the research can validate existing literature on IS implementation as well as more recent literature that discusses the role of influence behaviors in such IS implementations. This approach also allows the evaluation of key party views on the impact of the influence behaviors and the successfulness of the effort.

7. Background:

AFIT Communications Directorate (SC) developed a new academic support system, called my.afit.edu, for AFIT EN's use. The system is more aptly described as a web-enabled portal that allows seemless access to a variety of disparate databases that capture student information such as registering for classes, class schedules, and course grades. Interestingly, the conceptualization and eventual implementation of this new system was shepherded by a small group of individuals whose influences were key in the making the innovative effort a reality.

8. Impact:

There are no immediate, direct benefits for the participants. However, this research will document, for historical purposes, the my.afit.edu effort. Lessons learned in this implementation effort can lead to successful future AFIT IS implementation projects. This research will also identify critical current/future issues with the system for AFIT SC.

This research will also provide a solid foundation for the development of a teaching case which can be used for student learning in the classroom.

9. Experimental Plan:

The methodology used for this research will use a case study approach. The unit of analyses will be (1) AFIT and (2) key parties involved in the implementation effort. In order to address the research questions, semi-structured interviews will be conducted with a sampling of the key parties involved. Organization documents, briefings, memos, etc. will also be evaluated in order to determine critical historical and foundational information pertinent to the research questions. Content analysis and pattern matching will be used to analyze the interview data and organizational documents in order to answer the research questions.

The semi-structured interviews, approximately one hour in length, of the key parties will be voluntary. Key party individuals will be members from AFIT EN, AFIT RR, and AFIT SCA who wish to participate. Random key party individuals will be invited to participate. Each participant will be scheduled for an interview, starting in July 2003 until September 2003, at a time and location convenient to them. Prior to the interview each participant will be given an informed consent letter (Atch 5), an outline of the interview (Atch 3), and an information sheet (Atch 2). Each participant will be asked to sign the informed consent letter and an informed consent letter to be quoted (Atch 6). At the start of the interview, each participant will be asked whether or not they will consent to the interview being audiotaped (Atch 5). For those subjects that wish to review a transcript of their interview and/or elect to be quoted, their interview transcripts will be returned to them for final approval and release before being used. The transcripts will be returned to the participants via email and a reply granting or denying release will be requested. If a release is not granted or a reply is not received, the interview will not become a part of the research.

The interviews will focus on answering the following research questions:
  (1) What is the history of the academic support system implementation effort?
  (2) Who were the key parties (i.e. leaders, end-users, implementers) involved in the implementation?
  (3) What were the influence behaviors demonstrated by key leaders during the implementation process of the academic support system as viewed by the key parties?
  (4) What are the key party views of the impact of these influence behaviors on the successfulness of the implementation?
  (5) What do key parties view as current/future critical issues with the academic support system?

10. Medical Risk Analysis: None.

11. Risk Analysis:

Participants will be asked to provide their names and duty sections so the data can be associated with the individual. Participants will be asked to identify individuals who influenced their acceptance of my.afit.edu and how they influenced their acceptance. To validate the research, exact quotes from participants and names of influencing individuals are desired.

Given the research is sponsored by the AFIT Commander (Atch 1), the possibility for any kind of recriminations is unlikely. The risk to participants is minimal due to the focus of the research, the organization not individual level. The information sheet and the informed consent letter stresses the decision to participate is voluntary. In addition, both the information sheet and the informed consent letter states: "Your participation is COMPLETELY VOLUNTARY. Due to the nature of the interview questions, there is a possibility of adverse repercussions from your statements. Steps will be taken to protect your identity in the final write-up. Your input is important to understand the academic support system implementation effort and key leader influence behaviors. You may withdraw from this study at any time without penalty, and your interview data will not be used in the research. Your decision to participate or withdraw will not jeopardize your relationship with your department, the Air Force Institute of Technology, the Air Force, or the Department of Defense."

Steps will be taken to protect the completed transcribed interviews. Each interview participant will be assigned a number once they turn in the informed consent form. Interview transcripts will be saved on the Associate Investigators home computer and personal account, located on AFIT network, by assigned numbers. Access to the Associate Investigators home computer and personal account on the AFIT network are secure from unknown user access. Upon completion of the study, all saved interview transcripts will be destroyed.

12. References: None.

13. Attachments:
Attachment 1:   Endorsement Letter from AFIT Commander
Attachment 2: Information Sheet
Attachment 3: Interview Session Outline
Attachment 4: Interview Session Presentation
Attachment 5: Informed Consent Letter
Attachment 6: Informed Consent Letter for "Quoting"

DEPARTMENT OF THE AIR FORCE
AIR UNIVERSITY (AETC)

5 May 2003

MEMORANDUM FOR AFIT/EN
AFIT/CC

FROM: AFIT/ENV

SUBJECT: Request for Thesis Effort Endorsement

1. First Lieutenant Mary King, my advisee, is researching the information system (IS) implementation effort started by AFIT SC in January 2002. As you may know, AFIT SC developed a new student academic support system, called my.afit.edu, for AFIT EN's use. The system is more aptly described as a web-enabled portal that allows seamless access to a variety of disparate databases that capture student information such as class registration, class schedules, and course grades. Interestingly, the conceptualization and eventual implementation of this new system was shepherded by a small group of individuals whose influences were key in the making the innovative effort a reality.

2. The objective of her research is to conduct a case study investigation of this IS implementation and the accompanying role of influence behaviors of key leaders involved in the effort. By examining, in-depth, the case of the AFIT my.afit.edu implementation, the research can validate existing literature on IS implementation as well as more recent literature that discusses the role of influence behaviors in such information system implementations. This approach also allows the evaluation of key party views on the impact of the influence behaviors of the successfulness of the effort. This research will also document, for historical purposes, the unique my.afit.edu effort and will allow the collection of lessons learned for future AFIT IS implementation projects. Finally, it should also identify critical current/future issues with the "my.af.it.edu system" as identified by key parties.

3. Given that this is an AFIT-specific research project that will involve interviews with AFIT personnel, I request your support and endorsement of the proposed research. All standard research guidelines and procedures (including human subjects review) will be strictly adhered to. This is a unique opportunity to record and investigate an innovative AFIT effort—I hope you agree. If you have any questions, please contact me at 5-3636 ext 4826 or summer.bartczak@afit.edu.

SUMMER E. BARTCZAK, Lt Col, USAF
Asst Prof of Information Resource Management
Dept of Systems and Engineering Management
Graduate School of Engineering

1st Ind, AFIT/EN

MEMORANDUM FOR AFIT/CC

I am on-board as a reader for the thesis and fully support the research.

RITA A. JORDAN, Colonel, USAF
Associate Dean
Grad School of Engineering & Management

2nd Ind to AFIT/CC   9 May 2003

MEMORANDUM FOR AFIT/ENV (Lt Col Bartczak)

I endorse/do not endorse the proposed research topic.

DAVID W. EIDSAUNE, Colonel, USAF
Commandant
Air Force Institute of Technology

Information Sheet
For Research on
my.afit.edu, Academic Support System, Implementation and Key Leader Influence
Behaviors

Information systems are introduced into organizations for various reasons. Employee acceptance of these new information systems depend on how the system is introduced and incorporated into organizational activities. Influence behaviors demonstrated by key leaders in reference to the implementation of such information systems play a key role their acceptance and success. Recently, AFIT SC developed a new academic support system, called my.afit.edu. This "system" is more aptly described as a web-enabled portal that allows seamless access to a variety of disparate databases that capture student information such as class registration, class schedules, and course grades. Interestingly, the conceptualization and eventual implementation of this new "system" was shepherded by a small group of individuals whose influences were key in the making the innovative effort a reality.

The objective of this research is to conduct a case study investigation of information system implementation and the accompanying role of influence behaviors of key leaders involved in the effort. The effort has been endorsed by the AFIT Commander. By examining, in-depth, the case of my.afit.edu implementation, the research can validate existing literature on information system (IS) implementation as well as more recent literature that discusses the role of influence behaviors in such IS implementations. This approach also allows the evaluation of key party views on the impact of the influence behaviors of the successfulness of the effort. Finally, this research will document, for historical purposes, the my.afit.edu effort and apply lessons learned to future AFIT IS implementation projects. It will also identify critical current/future issues with the "system" as identified by key parties.

Semi-structured interviews, approximately one hour in length, will be conducted with a sampling of the key parties involved. Organization documents, briefings, memos, etc. will also be evaluated in order to determine critical historical and foundational information pertinent to the research questions. Content analysis and pattern matching will be used to analyze the interview data and organizational documents in order to answer the research questions. The data collection will focus on the following research questions:

(1) What is the history of the academic support system implementation effort?
(2) Who were the key parties (i.e. leaders, end-users, implementers) involved in the implementation?
(3) What were the influence behaviors demonstrated by key leaders during the implementation process of the academic support system as viewed by the key parties?

(4) What are the key party views of the impact of these influence behaviors on the successfulness of the implementation?

(5) What do key parties view as current/future critical issues with the academic support system?

Upon individual consent, each interview will be audiotaped. Copies of individual interview transcripts will be made available to interviewees upon request. Individual interviewees will be given the option to consent to "quoting". Interviewee names and job positions will be used to establish validity in the research.

Your participation is COMPLETELY VOLUNTARY. Due to the nature of the interview questions, there is a small possibility of adverse repercussions from your statements. Your name will be protected in the final write-up unless you do not consent to be quoted. Your input is important to understand the academic support system implementation effort and key leader influence behaviors. You may withdraw from this study at any time without penalty, and your interview data will not be used in the research. Your decision to participate or withdraw will not jeopardize your relationship with your department, the Air Force Institute of Technology, the Air Force, or the Department of Defense

PRIVACY ISSUES: Records of my participation in this study may only be disclosed according to federal law, including the Federal Privacy Act, 5 U.S.C. 552a, and its implementing regulations (See Below).

If you have any questions concerning this research, please contact First Lieutenant Mary M. King at 255-3636-6179 or mary.king@afit.edu or Lieutenant Colonel Summer E. Bartczak at 255-3636-4826 or summer.bartczak@afit.edu.

Having read the information provided, we hope that you decide to participate in this research project. You will be contacted soon by Lieutenant King to discuss your participation and to make any necessary arrangements for future contact.

Outline for Interview Session
With Interview Subjects

- Introduction
  - See Presentation (Atch 4)
- Obtain signed informed consent form and consent to "quoting" form
  - If consent is not given, thank subject for their time and end session
- Background
  - See Presentation (Atch 4)
    - Department of each subject is known prior to the start of the interview
    - Follow questions for the subjects' department
- Implementation
  - See Presentation (Atch 4)
    - Department of each subject is known prior to the start of the interview
    - Follow questions for the subjects' department
- Influencing individuals behavior
  - If no influencing individual is identified in Implementation skip to next section
  - For each influencing individual identified in Implementation repeat this section inserting the individual's name in <NAME>
    - See Presentation (Atch 4)
      - Provide each subject with a card of statements to choose from when answering
- Status
  - See Presentation (Atch 4)
    - Department of each subject is known prior to the start of the interview
    - Follow questions for the subjects' department
- Wrap up

Presentation
With Interview Subjects

INTRODUCTION:

Thanks for meeting with me today. My name is Lieutenant Mary King. I am a Graduate student here at AFIT in the Information Resource Management program. Just to give you a background on why I am interviewing you today: I am working on my thesis which is a case study on the academic support system, my.afit.edu, located on the AFIT portal. The objective of my research is to conduct a case study investigation of this information system implementation and the accompanying role of influence behaviors of key leaders involved in the effort. This research will also document, for historical purposes, the unique my.afit.edu effort and will allow the collection of lessons learned for future AFIT information system implementation projects. Finally, it should also identify critical current and future issues with the system. Do you have any questions for me at this time?

With your permission I would like to record today's interview. I will transcribe the interview and provide you with a copy to read over to make sure that everything is okay. Before we get started with the questions, there are just a few forms that I would like to go over with you. To show that you are voluntarily consenting to participate in this interview, you have the opportunity to consent to the interview, consent to be recorded, and consent to be quoted. Again, this is voluntary but for my records I need for you to sign forms for what you are willing to consent to. The research has been approved by the AFIT Commandant and the Assistant Dean of EN.

BACKGROUND:

        (AFIT SCA, AFIT RR, AFIT EN Faculty and Staff)
        What is your current duty title?

        What are your primary responsibilities?

        How long have you worked in this capacity?

        Where you in this same position when my.afit.edu was implemented?

        (AFIT EN Students)

        To which department do you belong to?

        To which program do you belong to?

IMPLEMENTATION:

(AFIT SCA, AFIT RR)
Were you a part of the planning and implementation of my.afit.edu? If so, how?

Who most influenced you during the planning and implementation? You can identify more than one person.

How were you influenced during the planning and implementation by this (these) individual(s)?

(AFIT EN Staff and Faculty)
Were you a part of the planning and implementation of my.afit.edu? If so, how?

Who most influenced your utilization of my.afit.edu? You can identify more than one person.

How were you influenced to start using my.afit.edu?

(AFIT EN Students)
How were you introduced to my.afit.edu?

For what primary functions do you use my.afit.edu?

Who most influenced your utilization of my.afit.edu? You can identify more than one person.

INFLUENCING INDIVIDUALS BEHAVIOR:

The next few questions are going to have you rate any influencing individual's behavior during the planning and implementation of my.afit.edu. Please rate the extent to which the influencing individual used each type of behavior to influence you by selecting one of the response choices on the card. Try to avoid letting your general impressions of this person bias your answers. If a behavior is not relevant for your situation or you are unsure whether the person has used it with you, just say number 1.

Pick One
1. I can't remember him/her ever using this tactic.
2. He/she very seldom used this tactic.
3. He/she occasionally used this tactic.
4. He/she used this tactic moderately often.
5. He/she used this tactic very often.

(Card to be given to subject)

<Name> explained the reasons for the development and or implementation of my.afit.edu in a clear and convincing way.

<Name> brought somebody along to support him/her when meeting with you about the implementation of my.afit.edu.

<Name> offered to do something for you in return for your support of my.afit.edu.

<Name> told you that his/her proposed project is very tentative and invited your suggestions about how to improve it.

<Name> insisted in an assertive way that you must support my.afit.edu.

<Name> complimented you on past accomplishments when asking you to support my.afit.edu.

<Name> asked you as a personal favor to support my.afit.edu.

STATUS:

(AFIT SCA, AFIT RR)
How often do you access my.afit.edu?

For what purposes do you use my.afit.edu? For updates? To correct problems?

How do you think the planning and implementation effort went?

What do you view as current/future critical issues with my.afit.edu?

(AFIT EN Staff and Faculty, EN Students)
How often do you use my.afit.edu?

For what purposes do you use my.afit.edu? Ed plans? To register for classes?

What do you view as current/future critical issues with my.afit.edu?

WRAP UP:

Those are all the questions that I have. I would like to thank you for your time today. Within the next week I will email you the transcribed notes from today. Please reply granting or denying release of the notes. Please make note of any items that you do not agree with in the notes. If you decide not to release the notes or do not reply, the interview will not become a part of the research.

Informed Consent
For Research on
my.afit.edu, Academic Support System, Implementation and Key Leader Influence Behaviors

You are invited to participate in a research study of information system implementation and influence behaviors exhibited by key leaders during the implementation effort. This research is to be conducted by Lieutenant Mary King. This research is in fulfillment of a Masters degree program under the Air Force Institute of Technology (AFIT) and has been endorsed by the AFIT Commandant.

The objective of this research is to conduct a case study investigation of information system implementation and the accompanying role of influence behaviors of key leaders involved in the effort. By examining, in-depth, the case of my.afit.edu implementation, the research can validate existing literature on information system (IS) implementation as well as more recent literature that discusses the role of influence behaviors in such IS implementations. This approach also allows the evaluation of key party views on the impact of the influence behaviors of the successfulness of the effort. Finally, this research will document, for historical purposes, the my.afit.edu effort and apply lessons learned to future AFIT IS implementation projects. It will also identify critical current/future issues with the "system" as identified by key parties.

Semi-structured interviews, approximately one hour in length, will be conducted with a sampling of the key parties involved. Organization documents, briefings, memos, etc. will also be evaluated in order to determine critical historical and foundational information pertinent to the research questions. Content analysis and pattern matching will be used to analyze the interview data and organizational documents in order to answer the research questions. The data collection will focus on the following research questions:

(1) What is the history of the academic support system implementation effort?
(6) Who were the key parties (i.e. leaders, end-users, implementers) involved in the implementation?
(7) What were the influence behaviors demonstrated by key leaders during the implementation process of the academic support system as viewed by the key parties?
(8) What are the key party views of the impact of these influence behaviors on the successfulness of the implementation?
(9) What do key parties view as current/future critical issues with the academic support system?

If you elect to participate, you may also consent to have the interview audiotaped. You may further consent to be "quoted". A copy of the interview transcripts will be made available to you for final approval and release prior to use if you consent to be "quoted".

Steps will be taken to protect the saved interview transcripts to include protected access to the saved files and labeling of the files by assigned numbers instead of names.

Your participation is COMPLETELY VOLUNTARY. Due to the nature of the interview questions, there is a small possibility of adverse repercussions from your statements. Your name will be protected in the final write-up unless you do not consent to be quoted. Your input is important to understand the academic support system implementation effort and key leader influence behaviors. You may withdraw from this study at any time without penalty, and your interview data will not be used in the research. Your decision to participate or withdraw will not jeopardize your relationship with your department, the Air Force Institute of Technology, the Air Force, or the Department of Defense

PRIVACY ISSUES: Records of my participation in this study may only be disclosed according to federal law, including the Federal Privacy Act, 5 U.S.C. 552a, and its implementing regulations (See Below).

If you have any questions concerning this research, please contact First Lieutenant Mary M. King at 255-3636-6179 or mary.king@afit.edu or Lieutenant Colonel Summer E. Bartczak at 255-3636-4826 or summer.bartczak@afit.edu.

HAVING READ THE INFORMATION PROVIDED, YOU MUST DECIDE WHETHER OR NOT TO PARTICIPATE IN THIS RESEARCH STUDY. YOUR SIGNATURE INDICATES YOUR WILLINGNESS TO PARTICIPATE.

_____   _____
Participant's Signature   Date   Investigator's Signature   Date

I ALSO AUTHORIZE THE AUDIOTAPING OF MY INTERVIEW.

_____   _____
Participant's Signature   Date   Investigator's Signature   Date

Privacy Act Statement

Authority: We are requesting disclosure of personal information, to include your Social Security Number. Researchers are authorized to collect personal information (including social security numbers) on research subjects under The Privacy Act-5 USC 552a, 10 USC 55, 10 USC 8013, 32 CFR 219, 45 CFR Part 46, and EO 9397, November 1943 (SSN).
Purpose: It is possible that latent risks or injuries inherent in this experiment will not be discovered until some time in the future. The purpose of collecting this information is to aid researchers in locating you at a future date if further disclosures are appropriate.
Routine Uses: Information (including name and SSN) may be furnished to Federal, State and local agencies for any uses published by the Air Force in the Federal Register, 52 FR 16431, to include, furtherance of the research involved with this study and to provide medical care.
Disclosure: Disclosure of the requested information is voluntary. No adverse action whatsoever will be taken against you, and no privilege will be denied you based on the fact you do not disclose this information. However, your participation in this study may be impacted by a refusal to provide this information.

INFORMED CONSENT
FOR "QUOTING" INTERVIEW

For Research on
my.afit.edu, Academic Support System, Implementation and Key Leader Influence Behaviors

You have previously been provided the informed consent form that allowed you to elect to participate in a research study of information system implementation and influence behaviors exhibited by key leaders during the implementation effort. If you have elected to participate, you were also given the opportunity to have your interview audiotaped.

In addition to the above options, you are also now given the opportunity to elect to have certain portions of your interview "quoted". If you elect to do so, the transcripts of you interview will be returned to you for your approval prior to any use in the research. Quoting may add validity to the research and make the final research product more useful and understandable.

PRIVACY ISSUES: Records of my participation in this study may only be disclosed according to federal law, including the Federal Privacy Act, 5 U.S.C. 552a, and its implementing   regulations (See Below).

HAVING READ THE INFORMATION PROVIDED, YOU MUST DECIDE WHETHER OR NOT TO ALLOW YOUR INTERVIEW TRANSCRIPTS TO BE QUOTED. YOUR SIGNATURE INDICATES YOUR WILLINGNESS TO PARTICIPATE.

_____   _____
Participant's Signature   Date   Investigator's Signature   Date

Privacy Act Statement

Authority: We are requesting disclosure of personal information, to include your Social Security Number. Researchers are authorized to collect personal information (including social security numbers) on research subjects under The Privacy Act-5 USC 552a, 10 USC 55, 10 USC 8013, 32 CFR 219, 45 CFR Part 46, and EO 9397, November 1943 (SSN).
Purpose: It is possible that latent risks or injuries inherent in this experiment will not be discovered until some time in the future. The purpose of collecting this information is to aid researchers in locating you at a future date if further disclosures are appropriate.
Routine Uses: Information (including name and SSN) may be furnished to Federal, State and local agencies for any uses published by the Air Force in the Federal Register, 52 FR 16431, to include, furtherance of the research involved with this study and to provide medical care.
Disclosure: Disclosure of the requested information is voluntary. No adverse action whatsoever will be taken against you, and no privilege will be denied you based on the fact you do not disclose this information. However, your participation in this study may be impacted by a refusal to provide this information.

Appendix B: Interview Questions

INTRODUCTION (Recited to all interview groups):

Thanks for meeting with me today. My name is Lieutenant Mary King. I am a Graduate student here at AFIT in the Information Resource Management program. Just to give you a background on why I am interviewing you today: I am working on my thesis which is a case study on the academic support system, my.afit.edu, located on the AFIT portal. The objective of my research is to conduct a case study investigation of this information system implementation and the accompanying role of influence behaviors of key leaders involved in the effort. This research will also document, for historical purposes, the unique my.afit.edu effort and will allow the collection of lessons learned for future AFIT information system implementation projects. Finally, it should also identify critical current and future issues with the system. Do you have any questions for me at this time?

With your permission I would like to record today's interview. I will transcribe the interview and provide you with a copy to read over to make sure that everything is okay. Before we get started with the questions, there are just a few forms that I would like to go over with you. To show that you are voluntarily consenting to participate in this interview, you have the opportunity to consent to the interview, consent to be recorded, and consent to be quoted. Again, this is voluntary but for my records I need for you to sign forms for what you are willing to consent to. The research has been approved by the AFIT Commandant and the Assistant Dean of EN.

INTERVIEWEE BACKGROUND:

AFIT EN Faculty and Staff:
1) What is your current duty title?

2) What are your primary responsibilities? (To include perceived and actual)

3) How long have you worked in this capacity? (Your current duty)

4) Were you in this same position when my.afit.edu was implemented? (If not, were did you work)

AFIT EN Students:
1) To which department do you belong?

2) To which program do you belong?

AFIT SC and AFIT RRD:
1) What is your current duty title?

2) What are your primary responsibilities? (To include perceived and actual)

3) How long have you worked in this capacity? (Your current duty)

4) Were you in this same position when my.afit.edu was implemented? (If not, were did you work)

MY.AFIT.EDU IMPLEMENTATION EFFORT:

AFIT EN Faculty and Staff:
1) Were you a part of the planning of my.afit.edu? If so, in what capacity? Were you part of the implementation of my.afit.edu? If so, in what capacity?

2) Who most influenced your utilization of my.afit.edu? You may identify more than one person.

3) How were you influenced by <Name> to start using my.afit.edu?

AFIT EN Students:
1) How were you introduced to my.afit.edu?

2) For what primary function(s) do you use my.afit.edu?

3) Who most influenced your utilization of my.afit.edu? You may identify more than one person.

AFIT SC and AFIT RRD:
1) Were you a part of the planning of my.afit.edu? If so, in what capacity? Were you part of the implementation of my.afit.edu? If so, in what capacity?

2) Who most influenced you during the planning? Who most influenced you during the implementation? You may identify more than one person. (Did your supervisor mandate that you use the system? Did your peers suggest that you use the system?)

INFLUENCING INDIVIDUALS BEHAVIOR (Recited to all groups):

The next few questions are going to have you rate any influencing individual's behavior during the planning and implementation of my.afit.edu. Please rate the extent to which the influencing individual used each type of behavior to influence you by selecting one of the response choices on the card. Try to avoid letting your general impressions of this person bias your answers. If a behavior is not relevant for your situation or you are unsure whether the person has used it with you, just say number 1.

Pick One
1. I can't remember him/her ever using this tactic.
2. He/she very seldom used this tactic.
3. He/she occasionally used this tactic.
4. He/she used this tactic moderately often.
5. He/she used this tactic very often.

(Card to be given to subject)

<Name> explained the reasons for the development and or implementation of my.afit.edu in a clear and convincing way.

<Name> brought somebody along to support him/her when meeting with you about the implementation of my.afit.edu.

<Name> offered to do something for you in return for your support of my.afit.edu.

<Name> told you that his/her proposed project is very tentative and invited your suggestions about how to improve it.

<Name> insisted in an assertive way that you must support my.afit.edu.

<Name> complimented you on past accomplishments when asking you to support my.afit.edu.

<Name> asked you as a personal favor to support my.afit.edu.

STATUS:

AFIT EN Faculty and Staff:
1) How often do you use my.afit.edu? (Per semester)

2) For what purposes do you use my.afit.edu? (Ed plans? To register for classes?)

3) What do you view as current/future critical issues with my.afit.edu?

AFIT EN Students:
1) How often do you use my.afit.edu? (Per semester)

2) For what purposes do you use my.afit.edu? (Ed plans? To register for classes?)

3) What do you view as current/future critical issues with my.afit.edu?

AFIT SC and AFIT RRD:
1) How often do you access my.afit.edu? (Per semester)

2) For what purposes do you use my.afit.edu? (For updates? To correct problems?)

3) How do you think the planning effort went? How do you think the implementation effort went?

4) What do you view as current/future critical issues with my.afit.edu?

WRAP UP:

Those are all the questions that I have. I would like to thank you for your time today. Within the next week I will email you the transcribed notes from today. Please reply granting or denying release of the notes. Please make note of any items that you do not agree with in the notes. If you decide not to release the notes or do not reply, the interview will not become a part of the research.

Appendix C: Interview Results

Note: Answers to some of the questions were omitted to protect the anonymity of the research subjects.

BACKGROUND:

Integrated Project Team (IPT):
What is your current duty title?
- Director of Communications and Information for AFIT; SC
- An Assistant Registrar
- Assistant Dean for Academic Affairs

What are your primary responsibilities? (To include perceived and actual)
- Core network services for the institute to include: information technology plans function; strategic planning for the IT infrastructure; enterprise database function; telephone support for AFIT; the Help Desk; distance learning support mission; web services; graphics and information services; information management function
- Equivalent to a University level registrar office. Includes: maintenance of student records; producing class schedules; obtaining student demographics; degree confirmation; orchestration of commencement; catalog production
- Manage the academic affairs of the Graduate School to include: faculty affairs, and issues; academic regulations; policy setting

How long have you worked in this capacity? (Your current duty)
- Two years
- Five years
- Three years

Were you in this same position when my.afit.edu was implemented? (If not, were did you work)
- Yes answered by all subjects

SC and RRD:
What is your current duty title?
- Lead program analyst in SCA; project lead for the my.afit.edu project
- Web administrator for AFIT
- Programmer analyst with SCA

What are your primary responsibilities? (To include perceived and actual)
- Duties include: delegating work to make sure that everything is making forward progress instead of stalling out; keeping track of problem tracking tickets, for

every project -- assigning a developer to work it, keep track of it's progress, ensure it is progressing through testing, and push out to production
- Duties include: tasks associated with registration for new students; assists with the production of class schedules; processes special studies request for Masters and for PhDs; basic student services e.g. provide transcripts and counseling, to an extent
- Maintains all the web servers and database servers at AFIT and provides systems support for all the other web programmers at AFIT
- Duties include: registration of the students; looking at problems in my.afit.edu
- Duties include: database administrator backup for the AFITMIS database; developing software to include web-based software; maintaining the client server pre-existing software

How long have you worked in this capacity? (Your current duty)
- 1 year as project lead of the my.afit.edu project
- 3 years
- 8 years

Were you in this same position when my.afit.edu was implemented? (If not, were did you work)
- Not at the beginning; someone else was in charge but due to discontent among the programmers was assigned the job later
- Yes
- Yes. For about 9 months two branches, software and web servers, merged together and formed a temporary branch called SCBQ
- Yes
- Yes

EN Faculty and Staff:
What is your current duty title?
- Associate professor
- Education technician (Ed Tech)
- Department head
- Professor
- Lead Ed Tech

What are your primary responsibilities? (To include perceived and actual)
- Teaching, curriculum chairman, and class advisor
- Managing the flow of the department
- Duties include: student matters; TDY orders; meeting professor's needs and wants; packages for the hiring process
- Duties includes: student inputs of grades; process drop/add slips; everything dealing with graduation for the department; making sure the course offerings are

the proper ones for the proper quarters; working with the Department Head for the course de-conflicts
- Seeing that the department is run well and efficiently, teaching, and research
- Handle the Department Head's calendar and meeting schedule, organizing, filing system, book orders, course offerings, rosters
- Teaching, research, and service
- Duties include: serving the students and the faculty; registration of the students, the upkeep of the student database from a departmental point of view; handling internal suspenses
- Duties include: statistical research; liaison for AFIT EN to AFIT SC for portal and STARS issues; operating instructions and scheduling liaison between AFIT EN and AFIT RRD respectively

How long have you worked in this capacity? (Your current duty)
- Approximately 30 years
- Nine years
- Nine months
- Approximately four years
- Ten years
- Two years
- Seven years as a civilian and three years as military
- Four years
- Nine years

Were you in this same position when my.afit.edu was implemented? (If not, were did you work)
- Yes answered by all interview subjects

EN Students:
To which department do you belong?
- ENY, Department of Aeronautics and Astronautics
- ENP, Department of Engineering Physics

To which program do you belong?
- Doctoral candidate program, PhD
- Doctoral candidate program, PhD

IMPLEMENTATION:

IPT:
Were you a part of the planning of my.afit.edu? If so, in what capacity? Were you part of the implementation of my.afit.edu? If so, in what capacity?
- Planning: Started with the conception of an IPT with AFIT EN, AFIT RRD, and AFIT SC. Implementation: Provided oversight and vision for AFIT SC

- Planning: Help to state the requirements. Implementation: Tested the system.
- Planning: Part of the IPT. Implementation: Not the actual mechanics

Who most influenced you during the planning? Who most influenced you during the implementation? You may identify more than one person. (Did your supervisor mandate that you use the system? Did your peers suggest that you use the system?)
- Dr. Heminger's report (Heminger & Miles, 1996) helped to frame what is was they were trying to do
- The students drove the requirements for RRD
- No one

SC and RRD:
Were you a part of the planning of my.afit.edu? If so, in what capacity? Were you part of the implementation of my.afit.edu? If so, in what capacity?
- Planning: SC was experiencing issues with RRD and EN so a team was formed to define all of their processes which lead to my.afit.edu. Implementation: Started with completing a web based schedule that pulled data directly from the database and currently with all aspects of the system
- Planning: Participated in several meetings detailing the requirements for the system. Implementation: Participated in testing of the system
- Planning: Developed system analysis and a data flow diagram of the entire application on paper, participated in requirements gathering. Implementation: Worked on some of the coding into Cold Fusion.
- Planning: Attended a few of the meetings early on, with EN, RRD, and SCA. Implementation: Helped to test the system and worked with students in helping them to use the system.
- Planning: Participated in meetings with different users. Implementation: Worked on the database structure of the system

Who most influenced you during the planning? Who most influenced you during the implementation? You may identify more than one person. (Did your supervisor mandate that you use the system? Did your peers suggest that you use the system?)
- Colonel Mills (big supporter) and Captain Lacey (also supportive)
- Dr. Wolf and Jennifer Wedekind (influence on exactly how the system was going to look, how it was going to operate)
- Colonel Mills (the visionary and he kept the lines of communication open with the users)
- Dr. Wolf and Mr. Baker (influence on how the system was going to operate)
- Ronda (big push behind it) and Colonel Mills (a big driving push)

EN Faculty and Staff:
Were you a part of the planning of my.afit.edu? If so, in what capacity? Were you part of the implementation of my.afit.edu? If so, in what capacity?
- Planning: Worked with Dr. Wolf on the system content and specific tasks for the system. Implementation: Volunteered for beta testing and gave feedback to both Dr. Wolf and programmers.
- Planning: Attended some of the meetings and offered reaction to the system. Implementation: Participated in some of the testing and offered feedback.
- Planning and Implementation: No
- Planning: Attended a few meetings. Implementation: No
- Planning: Did not participate in the planning but was asked to offer suggestions on the system. Implementation: Attended a 30 minute briefing on the system
- Planning: Attended Ed Tech meetings were the system was discussed Implementation: No
- Planning: No. Implementation: Attended a meeting where representatives explained what the system entailed and asked for suggestions
- Planning: No. Implementation: Introduced to the system once it was operational
- Planning: Attended a few of the IPT meetings and made inputs into the problem ticket tracking system. Implementation: Participated in testing and attended the mandatory meetings on the system

Who most influenced your utilization of my.afit.edu? You may identify more than one person.
- Ronda Houston
- No one at the time but the person filling the lead Ed Tech position had an influence because they were working with it most
- Myself, SC, Jennifer Wedekind
- Dr. Wolf and Mr. Baker

How were you influenced by <Name> to start using my.afit.edu?
- Started with the evolution of this whole process. Ms. Houston was very helpful and always available
- We were encouraged us to voice our opinions on the system to help to improve it
- SC encouraged us to use to system. Ms. Wedekind was very encouraging in having us to use the system. I encouraged myself to go ahead and try out the system
- Dr. Wolf and Mr. Baker held meeting(s)

EN Students:
How were you introduced to my.afit.edu?
- Dr. Wolf had sent an email saying that this will be a new system, try it out. Then an email came out that this was what we were using
- My. advisor told me to use it

For what primary function(s) do you use my.afit.edu?
- Scheduling, checking my ed plan, checking my grades
- Generating my ed plan, pre-registering and registering, and updating all my personal information

Who most influenced your utilization of my.afit.edu? You may identify more than one person.
- Dr. Wolf (notification of the system)
- Advisor

INFLUENCING INDIVIDUALS BEHAVIOR:
Interviewee ranked each question on a scale from 1 to 5 for each influencing individual:

Rational persuasion: <Name> explained the reasons for the development and or implementation of my.afit.edu in a clear and convincing way.

Coalition: <Name> brought somebody along to support him/her when meeting with you about the implementation of my.afit.edu.

Exchange: <Name> offered to do something for you in return for your support of my.afit.edu.

Coalition: <Name> told you that his/her proposed project is very tentative and invited your suggestions about how to improve it.

Pressure: <Name> insisted in an assertive way that you must support my.afit.edu.

Ingratiation: <Name> complimented you on past accomplishments when asking you to support my.afit.edu.

Personal Appeals: <Name> asked you as a personal favor to support my.afit.edu.

IPT: **None**

SC and RRD:

Influencing Individual	Rational Persuasion	Consultation	Exchange	Coalition	Pressure	Ingratiation	Personal Appeals
Mills	5	3	1	5	2	1	1
Mills	4	5	2	5	1	2	1
Mills	5	4	4	3	4	3	4
Lacey	4	2	2	4	1	1	1
Wolf & Wedekind	4	3	4	5	5	5	5
Wolf	1	3	2	2	5	1	1
Baker	5	2	2	3	4	5	3
Houston	4	3	4	3	5	4	4

EN Faculty and Staff:

Influencing Individual	Rational Persuasion	Consultation	Exchange	Coalition	Pressure	Ingratiation	Personal Appeals
SC	5	5	1	5	1	1	1
SC	3	3	1	2	3	1	1
Houston	4	4	1	5	1	1	1
Houston	5	4	1	1	1	2	1
Self	3	3	1	3	3	1	4
Wedekind	3	4	1	3	3	1	3
Wolf	4	3	1	2	1	1	1

EN Students:

Influencing Individual	Rational Persuasion	Consultation	Exchange	Coalition	Pressure	Ingratiation	Personal Appeals
Wolf	5	1	1	3	3	1	1
Advisor	4	2	5	5	5	5	5

STATUS:

IPT:

How often do you access my.afit.edu? (Per semester)

- Rarely
- Periodically
- Once or twice every couple of weeks

For what purposes do you use my.afit.edu?

- To test it out
- Look at course schedules; look at individual student records; academic calendar; course offerings; grade maintenance; transcript production; degree verification; student loan waivers
- To see what's there and monitor what's available

How do you think the planning effort went? How do you think the implementation effort went?

- Planning: Went very well. Implementation: It was rough but I expected that it would be because you are dealing with change and people don't like change.
- Planning: Went very well considering we started with a flawed product. Implementation: Still on the implementation process and I wish it could happen quicker

What do you view as current/future critical issues with my.afit.edu?

- Really need to get rid of all the old rats-nest type structures that are out there. Portal proliferation is another issue.
- Continued maintenance and enhancements of the system. Also porting over everything from STARS so we only use 1 system

- Better integration with other applications. Seek feedback from the people who use it on topics such as usability and whether or not there are other items that ought to be on the system

SC and RR:

How often do you access my.afit.edu? (Per semester)
- Daily
- Several times a day
- Once a month
- Numerous times daily; 20-30 times a day

For what purposes do you use my.afit.edu? (For updates? To correct problems?)
- Tracking problem tickets, developing and testing
- Add students to their special studies, assist students with problems, explain procedures with the system, look at student records, and add and remove courses
- Help the programmers by seeing if we can fix their code or point them in the right direction
- Look at a student's schedule and change a grade to name a few tasks
- An on-going process of development and testing

How do you think the planning effort went? How do you think the implementation effort went?
- Planning: Went fairly well; there were some issues when different people within the institute weren't sure of their processes. Implementation: had its moments but went fairly smooth; at first the push was get it done and get it done fast so there was little testing but after the change in oversight, quality was stressed
- Planning: At first it was rocky; when everyone was trying to figure out where it was going and what needed to be done but once we got past that and we started to turn the systems on, it went a lot better. Implementation: implemented relatively slowly
- Planning: Went very well; very smooth and completed in a short amount of time. Implementation: very well once we got management and faculty buy-in it was easy
- Planning: Took a life of its own. Implementation: still an ongoing process and confusion at first as to what we needed to test, a lot of finger pointing for testing not getting done
- Planning: Not that well organized; more standardization across the board. Implementation: rushed through the process

What do you view as current/future critical issues with my.afit.edu?
- Giving distance learning students and other AFIT students (CI, CE, etc.) the ability to register for courses and access the portal. The portal is evolving and we need to get more outside entities involved.
- Course scheduling conflicts that occur each Academic quarter

- Security with the Air Force mandate of using CAC cards on all government system; some AFIT students do not have a CAC card nor will they ever get one so they would not be able to access the system.
- Institute audit trails that identifies people's actions and the web service needs to be faster
- Standardization of system screens and the system needs to be cleaned up from the standpoint of mobility through the different screens

EN Faculty and Staff:
How often do you use my.afit.edu? (Per semester)
- Comes in waves that are associated with the registration process; 10 times a quarter
- Every quarter and some quarters more than others especially the last ten weeks
- At least three or four times a day
- Varies with the time of the year but on average twice a week
- At least three times a week. Around graduation time it is busy
- A couple times a month
- Everyday; several times a day; I'm in and out of it every few minutes
- All the time

For what purposes do you use my.afit.edu? (Ed plans? To register for classes?)
- Look at or review students education plans (ed plans), look at student registration, grades, course offerings, class rosters
- Enter and check all the thesis for our department. Enter in all the information on the students, their majors, their options; things that would show up on the transcripts. Check courses, course rosters, and try to find people in an emergency. For the course critiques, check the number of students in each class to put together the packages
- Searching for pubs and forms
- Course offerings, the schedule, answer any questions that the faculty have on our students
- Get a class roster
- Grades and printing rosters for the students that are graduating, looking up gpas, and trying to find the distinguished graduates, locating students in case there is an emergency, imputing new courses, and printing out the new schedules for the next quarter, deleting or adding courses
- Approve student ed plans or changes
- Check students, check student rosters, check information, schedules on students, check students which advisors are advising which students
- Full access into the functions relevant to AFIT EN

What do you view as current/future critical issues with my.afit.edu?
- Most of the bugs have been taken out and to me it is more of the currency and correctness of the data and also I wish that there would be a way of linking the ed

plans to the course selections. When you submit a graduation package you are still printing out the ed plan and submit that as part of graduation. Logging in and giving your password multiple times. Institute an audit trail for the ed plan. Difficult for an advisor to tell a student how to do it with the different views of the portal. Data in the two databases may not be consistent. Course roster validation, why not electronic since you can get it electronically.

- Read only access of all students in EN
- Read only access of all students ed plans, just the basic information. The ability to do our own queries. Instead of scrolling through a long list, should have the option to just type in the query look-up. Link ed plans and courses
- Wean from STARS
- Internet accessibility constraints. Professor should have access to certain things in case an Ed Tech is gone. Read only access to student's ed plans
- Asking a lot from students in a short amount of time during Fall Academic quarter

EN Students:
How often do you use my.afit.edu? (Per semester)
- Monthly
- Once a quarter

For what purposes do you use my.afit.edu? (Ed plans? To register for classes?)
- Checking grades; checking ed plan; registering for classes; checking my schedule,
- Making sure I'm registered for the departmental seminar; my dissertation research

What do you view as current/future critical issues with my.afit.edu?
- Internet access constraint
- Automatic registration for dissertation students and program templates

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Vita

Lieutenant Mary M. King graduated from duPont Manual High School in Louisville, Kentucky in June of 1996. She entered undergraduate studies at DePauw University and graduated with a Bachelor of Arts degree in Computer Science in May 2000. Lieutenant King earned her Air Force commission through the Detachment 215 at Indiana University.

In July of 2000, she was assigned to the 789th Communications Squadron (CS) at Andrews Air Force Base in Maryland. As part of the 789th CS, Lieutenant King held positions as a program manager and Officer in Charge of a radio communications element. After two years in the 789th CS, she was assigned to Wright-Patterson Air Force Base to attend the Air Force Institute of Technology's Graduate School of Engineering and Management. Upon graduation, Lieutenant King will be assigned to Headquarters, Air Intelligence Agency, Lackland Air Force Base, Texas.

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14. ABSTRACT

Organizations implement information systems (IS) for various reasons such as streamlining daily functions and keeping pace with changes in technology. Influence behaviors demonstrated by key leaders in reference to the implementation of such information systems play a key role in their acceptance and success. This research looks at a specific case of IS implementation and the role influence behaviors played in the successfulness of the system. This research is a case study of the Air Force Institute of Technology's (AFIT) implementation of an academic support system called my.afit.edu. Interviews and documentation gathered from key parties involved in the implementation provided a basis for understanding the implementation effort and the effect influence behaviors had on the successfulness. This research showed how the use of positive influence behaviors by key leaders results in a successful implementation effort. In addition to the use of positive influence behaviors by key leaders, the success of the implementation effort is tied to management and implementers and their ability to address user concerns early in the implementation effort.

15. SUBJECT TERMS
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